

Chicago Mercantile Exchange information sources

[http://www.cmegroup.com/tools-
information/index.html](http://www.cmegroup.com/tools-information/index.html)

Key Areas in Grain Marketing

- Global Market Developments
- Seasonality of prices & basis
- Basis signals & prospects for change
- What local markets to watch
- Futures “carry” & what it signals
- Your costs & risk-bearing ability
- Should you use an advisory service?
- Govt. programs
- Which marketing tools to use?
 - Lock in price, basis, both or neither? Forward contracts, hedge, options, new-generation contracts, price later contracts, farm vs. off-farm storage, offer contracts?

Current Global Grain Developments

- Food shortages & rioting in a few developing countries
- Foreign weather problems in '07: Australia, EU, FSU, US, Canada
- Non-US exporters halting or taxing exports
- Food price inflation
- Growing concern about GHG emissions
- Bio-fuels getting negative press
- Delayed US plantings & wheat concerns
- Livestock negative returns

Marketing Exercise Econ 338C Spring 2007			Grain Prices for July 2007 Delivery									
	Boone	Nevada	Kelly	Napier	Madrid	Gilbert	Colo	VeraSun	Horizon Ethanol	Cargill	Cedar	Sept.
								Ft. Dodge	Jewell	Eddyville	Rapids	Futures
Corn												
8-Mar												
Cash price	3.87	3.86	3.84	3.82	3.82	3.84	3.84	3.95	3.96	3.91	3.97	4.20
July bid	4.02	4.00	3.98	3.95	3.95	3.98	3.97	4.11	4.13	4.09	4.15	
Basis												
Sales: Bu.												
Sales: \$												
22-Mar												
Cash price												
July bid												
Basis												
Sales: Bu.												
Sales: \$												
29-Mar												
Cash price	3.32	3.25	3.23	3.21	3.21	3.23	3.22	3.38	3.46	3.33	3.30	3.59
July bid	3.39	3.37	3.35	3.34	3.34	3.35	3.34	3.45	3.54	3.40	3.52	3.74
Basis -- July	-0.35	-0.37	-0.39	-0.40	-0.40	-0.39	-0.40	-0.29	-0.20	-0.34	-0.22	

Major States Corn Percent Planted, 2004-07

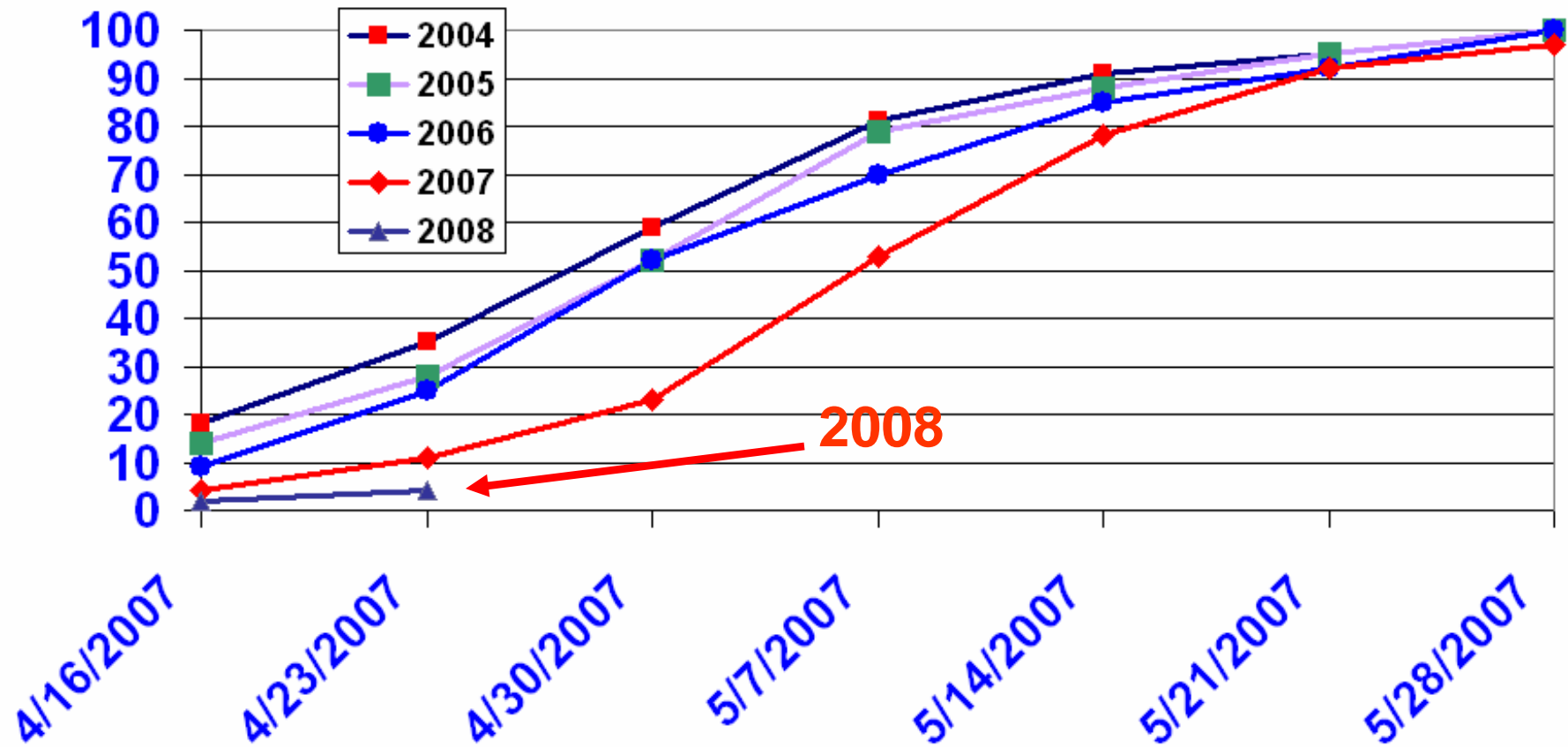
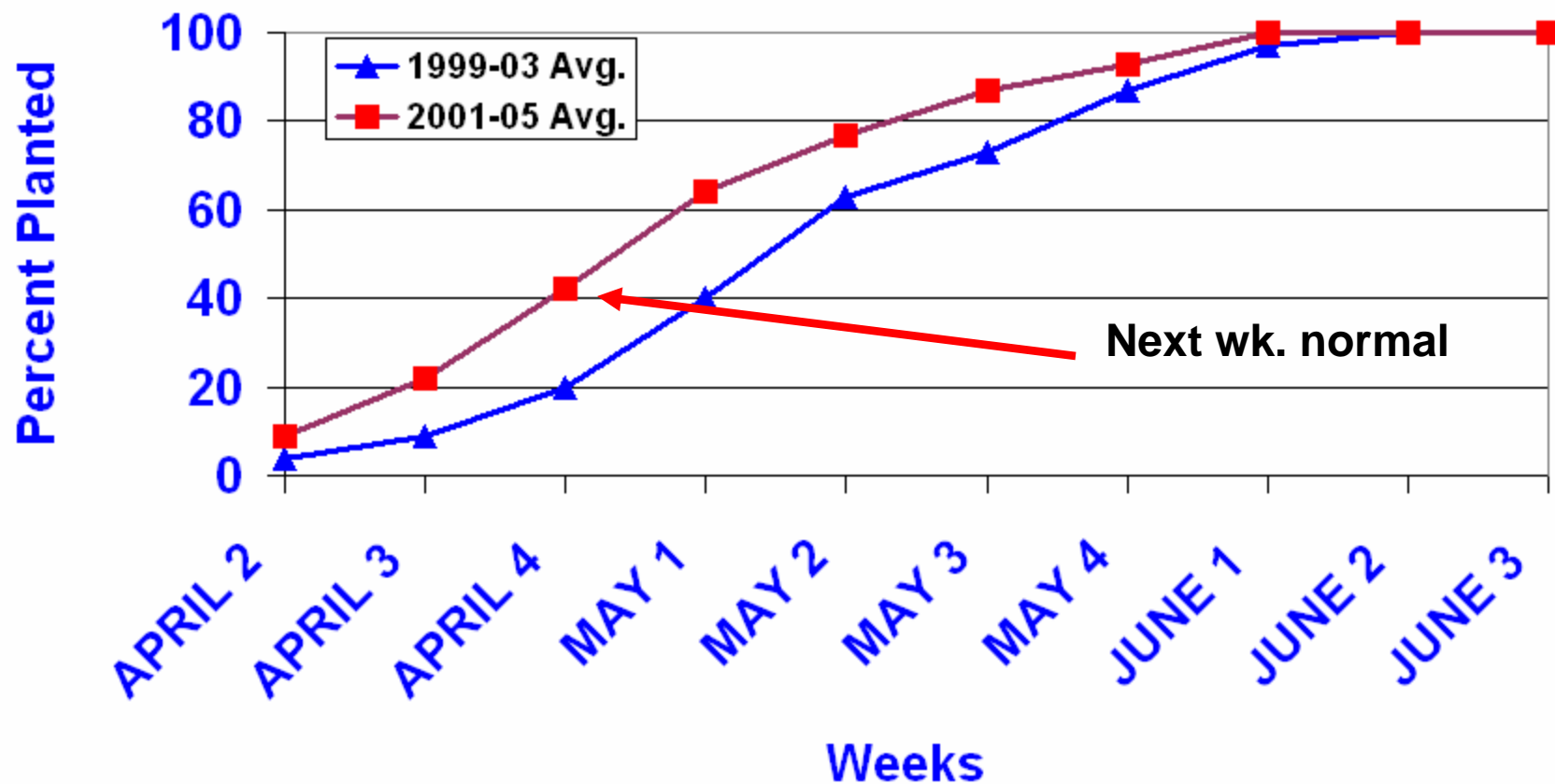
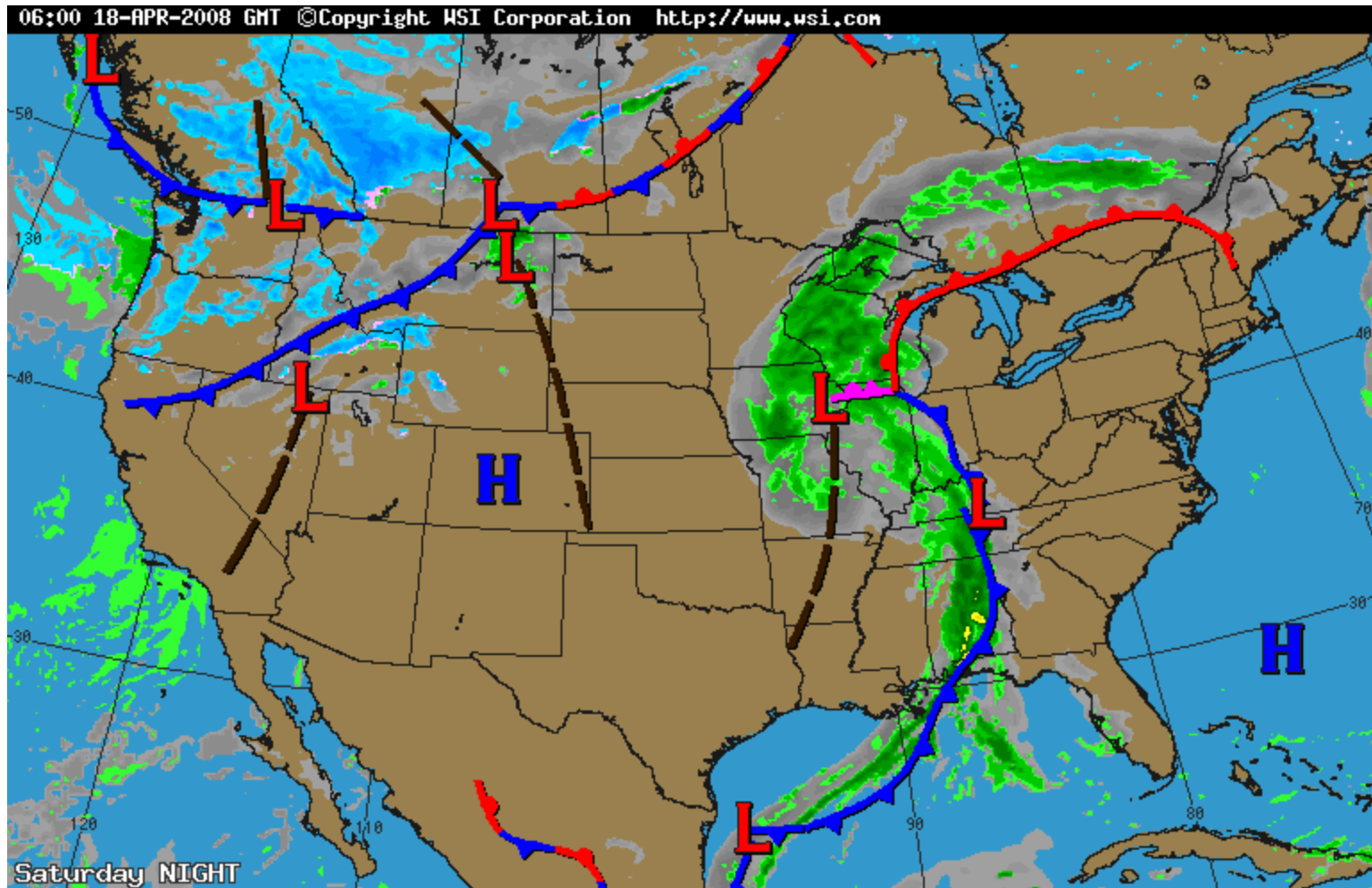


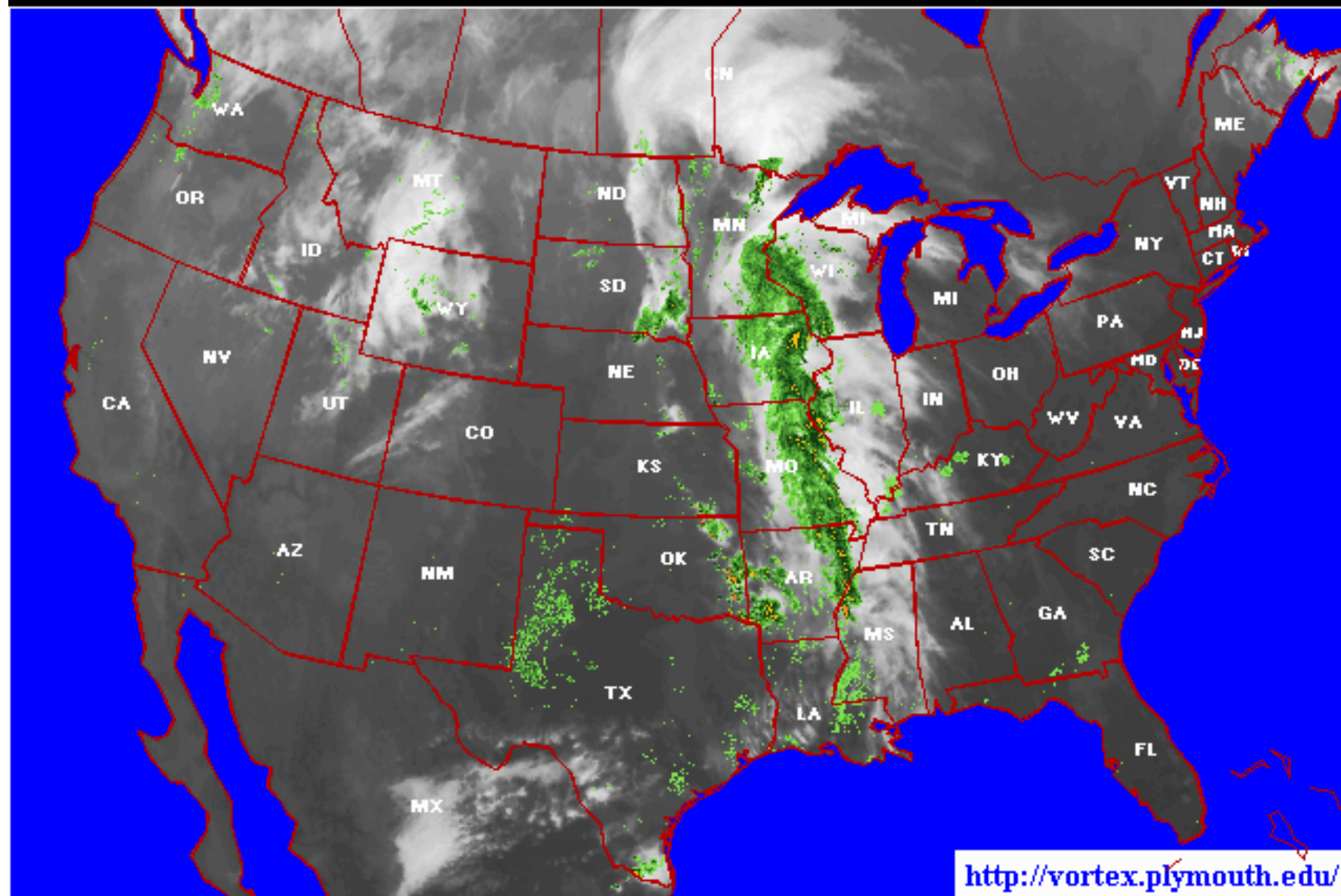
Figure 2. U.S. Corn Planting Progress, 1999-03 and 2001-05 Averages



4/18/08



Plymouth State Weather Center



Satellite valid: 1345Z 24 APR 08 / NEXRAD Radar valid: 1355Z 24 APR 08

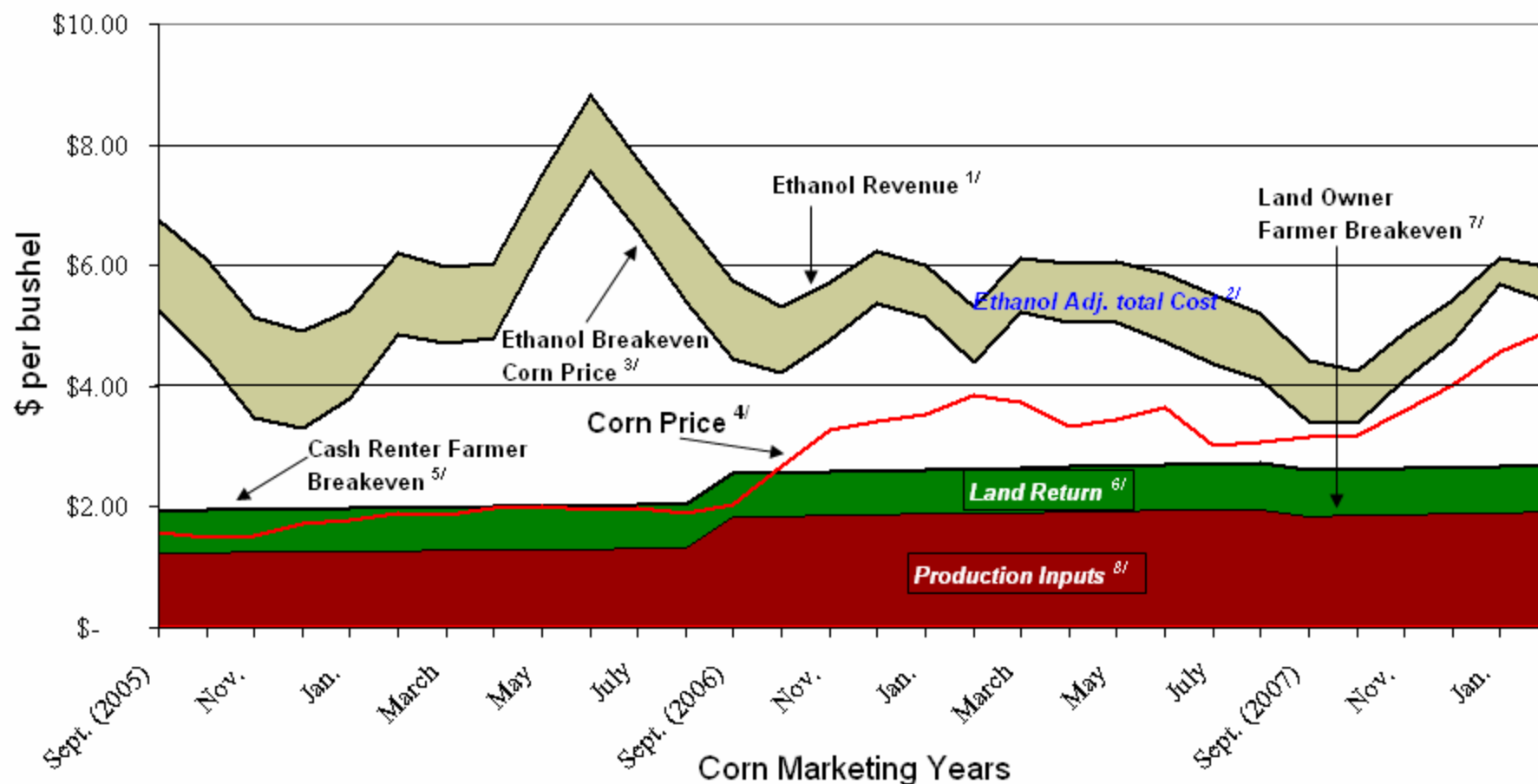
Point and click anywhere on state or country to get latest observations and forecasts

Prices when USDA planting intentions survey was taken

Soybean Futures. Cts/bu.			Corn Futures. Cts/bu.			HRS Wheat
	11/16/07	2/27/08		11/16/07	2/27/08	2/27/08
8-Jan	1084	--	7-Dec	380	--	Csh. 2121
8-Mar	1100	1455	8-Mar	396	528	2000
8-May	1105	1473	8-May	406	541	1675
8-Jul	1107	1487	8-Jul	415	555	1405
8-Aug	1086	1485	8-Sep	419	555	1220
8-Sep	1040	1443	8-Dec	425	555	1210
8-Nov	1018	1406	9-Mar	430	564	1210
9-Jan	1021	1412	9-May	433	566	1080
9-Mar	1022	1413	9-Jul	438	570	1180
9-May	1021	1406	9-Dec	425	539	1050
9-Jul	1020	1420	10-Mar	428	544	--
9-Nov	965	1350	10-Jul	431	548	--
10-Nov	--	1330	10-Dec	425	528	--

Soybean Futures. Cts/bu.			Corn Futures. Cts/bu.		
	2/27/08	3/17/08		2/27/08	3/17/08
8-Jan	--	--	7-Dec	--	--
8-Mar	1455	--	8-Mar	528	--
8-May	1473	1316	8-May	541	547
8-Jul	1487	1320	8-Jul	555	559
8-Aug	1485	1315	8-Sep	555	559
8-Sep	1443	1280	8-Dec	555	561
8-Nov	1406	1243	9-Mar	564	571
9-Jan	1412	1241	9-May	566	572
9-Mar	1413	1246	9-Jul	570	573
9-May	1406	1247	9-Dec	539	536
9-Jul	1420	1260	10-Mar	544	540
9-Nov	1350	1180	10-Jul	548	543
10-Nov	1330	1170	10-Dec	528	534

Breakeven Corn Sales - Where are the Profits?



^{1/} Ethanol Revenue expresses as bushels of corn (ethanol price per gallon X 2.8 gallons per bushel = ethanol revenue per bushel of corn)

^{2/} Ethanol Adjusted Total Cost of Production (total cost of ethanol production except for corn - DDGS return)

^{3/} Ethanol Breakeven Corn Price (Ethanol Revenue - Ethanol Adjusted Total Cost of Production)

^{4/} Price of corn (paid by ethanol plant, received by corn farmer)

^{5/} Breakeven Corn Price for Cash Renter Farmer (production inputs + machinery + labor + land rent - government payments).

^{6/} Land Return per bushel of corn (cropland cash rent per bushel of corn)

^{7/} Breakeven Corn Price for Land Owner Farmer (production inputs + machinery + labor - government payments)

^{8/} Production inputs per bushel of corn (production inputs + machinery + labor - government payments per bushel of corn)

Jewell 4/24/08

Store or sell now?
Market Signals?

		Basis	Cash Price	Futures Price
April 08	<u>C8K</u>	-0.40	5.41	5804
May	<u>C8K</u>	-0.37	5.44	5804
June	<u>C8N</u>	-0.43	5.51	5934
July	<u>C8N</u>	-0.41	5.53	5934
August	<u>C8U</u>	-0.34	5.69	6024
FH Sep	<u>C8U</u>	-0.31	5.72	6024
LH Sep	<u>C8U</u>	-0.40	5.63	6024
October	<u>C8Z</u>	-0.43	5.62	6050
November	<u>C8Z</u>	-0.40	5.65	6050
December	<u>C8Z</u>	-0.36	5.69	6050
January 09	<u>C9H</u>	-0.41	5.73	6134
February	<u>C9H</u>	-0.39	5.75	6134
March	<u>C9H</u>	-0.37	5.77	6134
April 09	<u>C9K</u>	-0.37	5.92	6290

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4/23/08
Heart of Iowa Cooperative

SOYBEANS

	+/-	Roland	Nevada	Burg	Zearing	Story	Gilbert	Kelley	ADM	IF
Apr	-4	12.85	12.85	12.85	12.85	12.85	12.85	12.87	13.17	13.07
May	-4	12.85	12.85	12.85	12.85	12.85	12.85	12.87	13.17	13.18
Jun	-4	12.89	12.89	12.89	12.89	12.89	12.89	12.91	13.23	
Jul	-4	12.92	12.92	12.92	12.92	12.92	12.92	12.94	13.26	
Oct08	-19	11.36	11.36	11.36	11.36	11.36	11.36	11.38	11.51	
Jan09	-19	11.51	11.51	11.51	11.51	11.51	11.51	11.53	11.66	

On-farm Corn Storage Costs 8 months (@ \$5.78/Bu.)

• Extra shrink to 13%	\$0.145
• Extra drying to 13%	0.04
• Interest @ 7%	0.27
• Handling	0.02
• Quality deterioration (1%)	0.058
Total	0.533

\$6.40 May call = \$0.90/bu.

Off-farm Corn Storage Costs

8 months

• Extra shrink to 14%	\$0.08
• Extra drying to 14%	0.03
• Interest @ 7%	0.27
Handling	0.00
• Storage	0.225
• Total	0.605
• Price-later	0.495

On-farm Soybean Storage

Costs: 8 months @ \$11.36/Bu.

Interest @ 7%	0.53
• Handling	0.02
• Quality deterioration (1%)	0.114
Total	0.664

Off-farm Soybean Storage

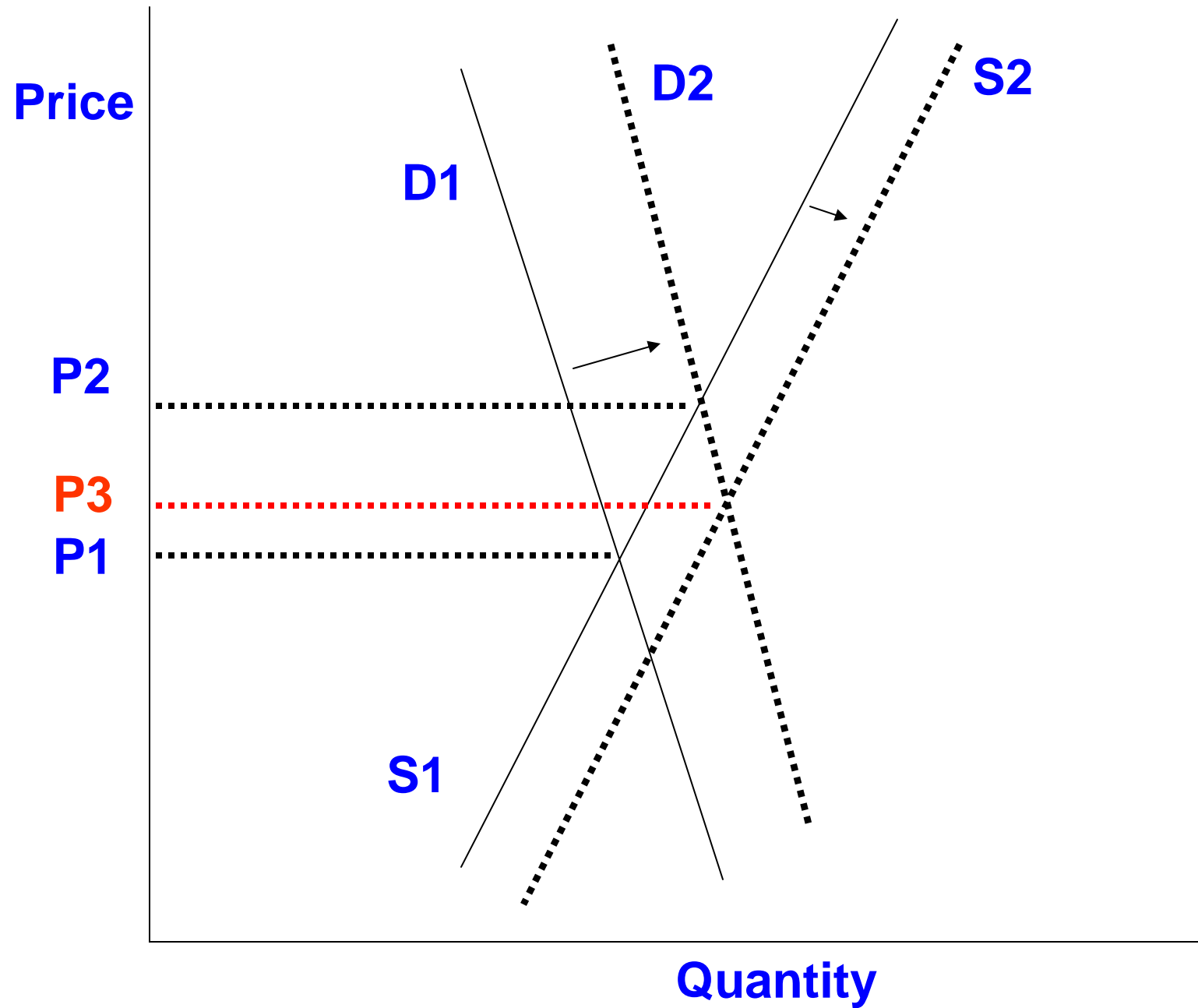
Costs: 8 months

- Interest @ 7% 0.53
- Storage charge 0.225
- Total 0.755

- Price later 0.74

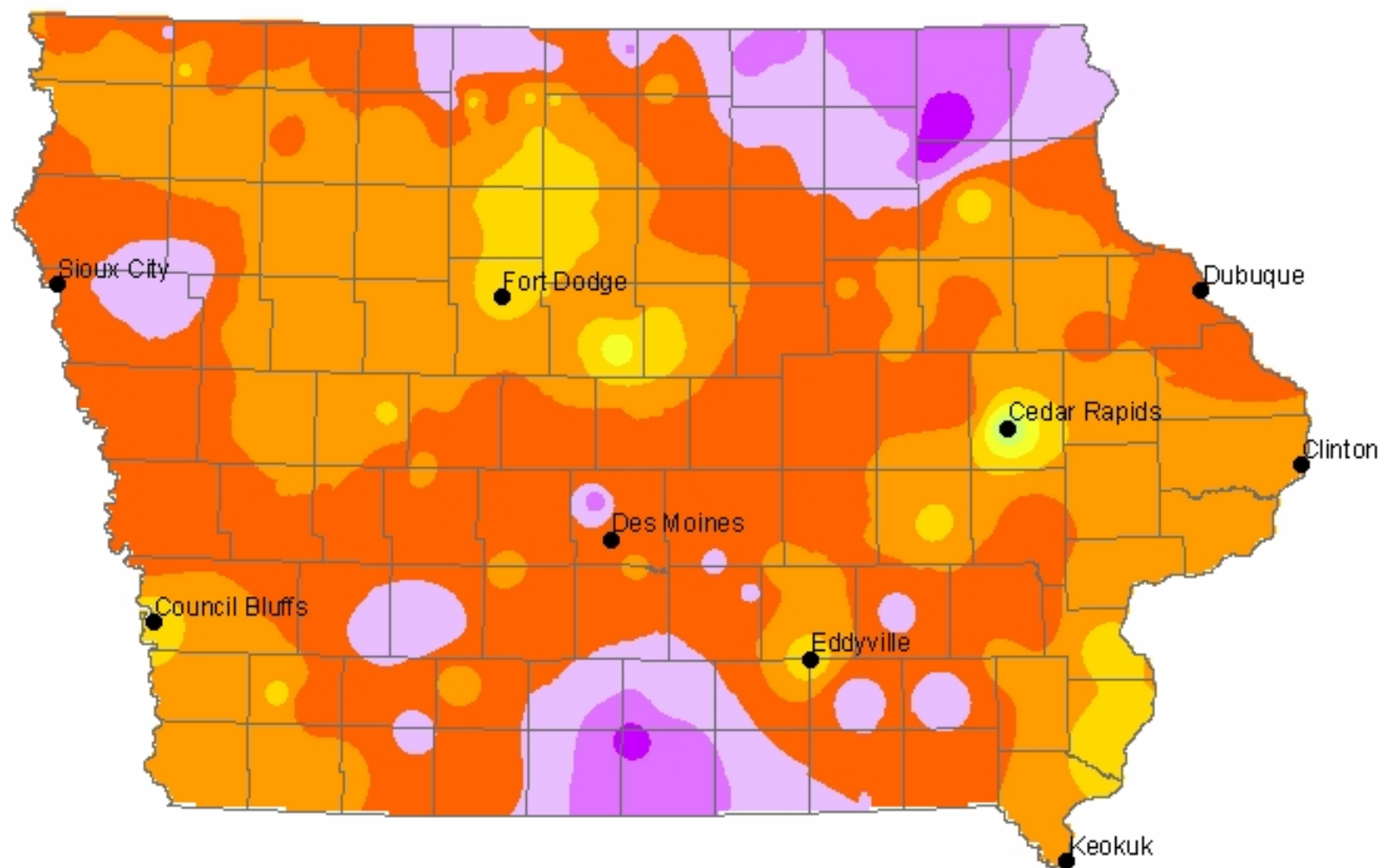
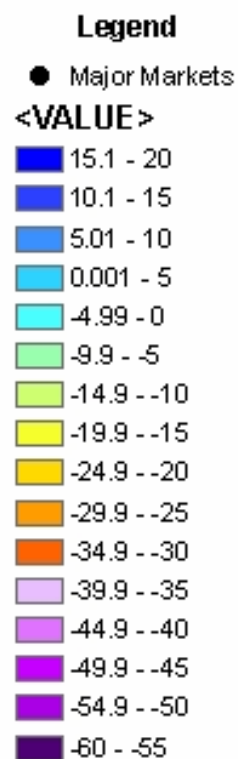
\$13.00 March call=\$1.64, \$13.00 May=\$1.70

U.S. Corn Market & Ethanol



FEB 27, 2007 CORN BASIS

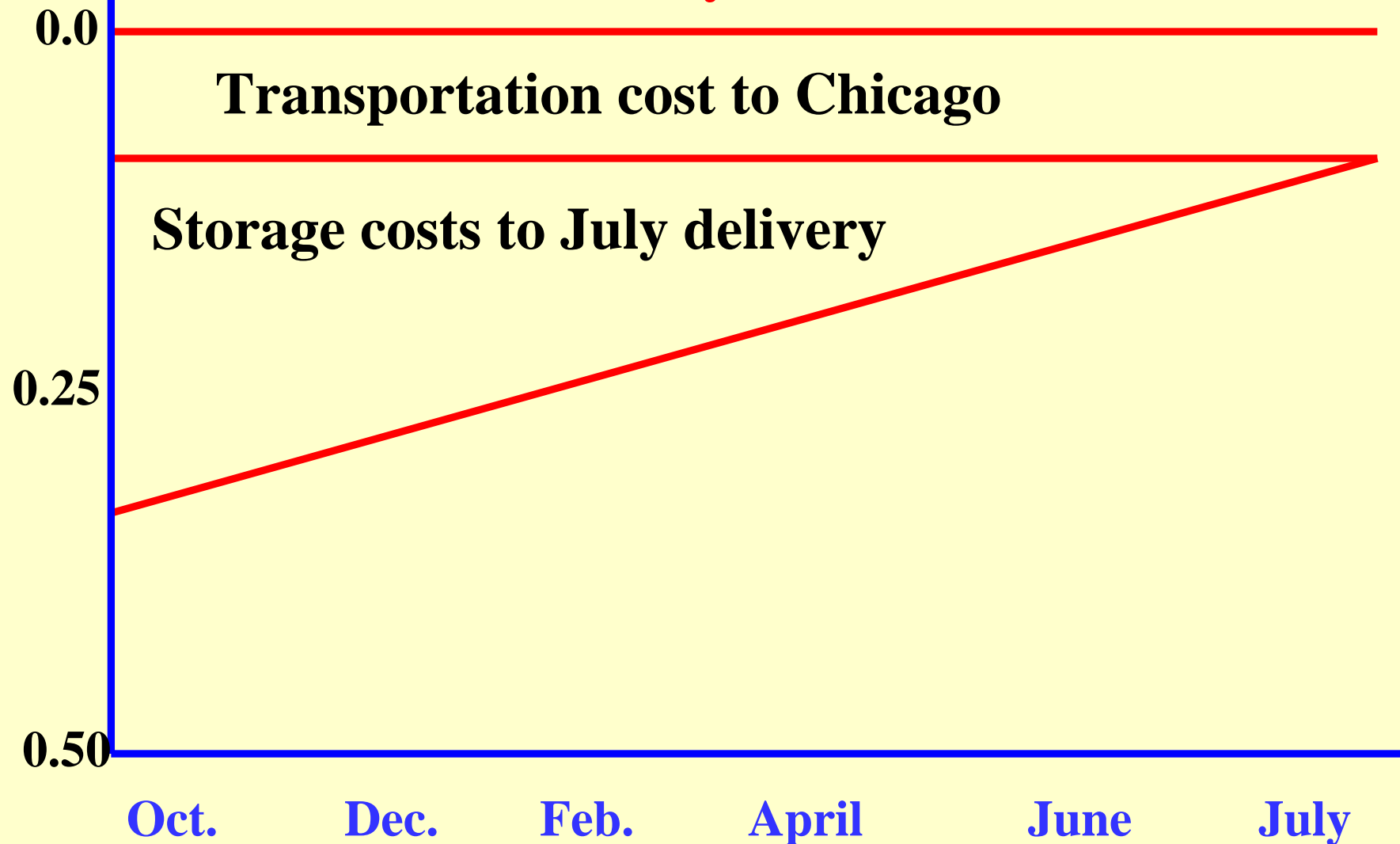
Basis Calculated from CBOT MAR futures price 411 cents per bushel



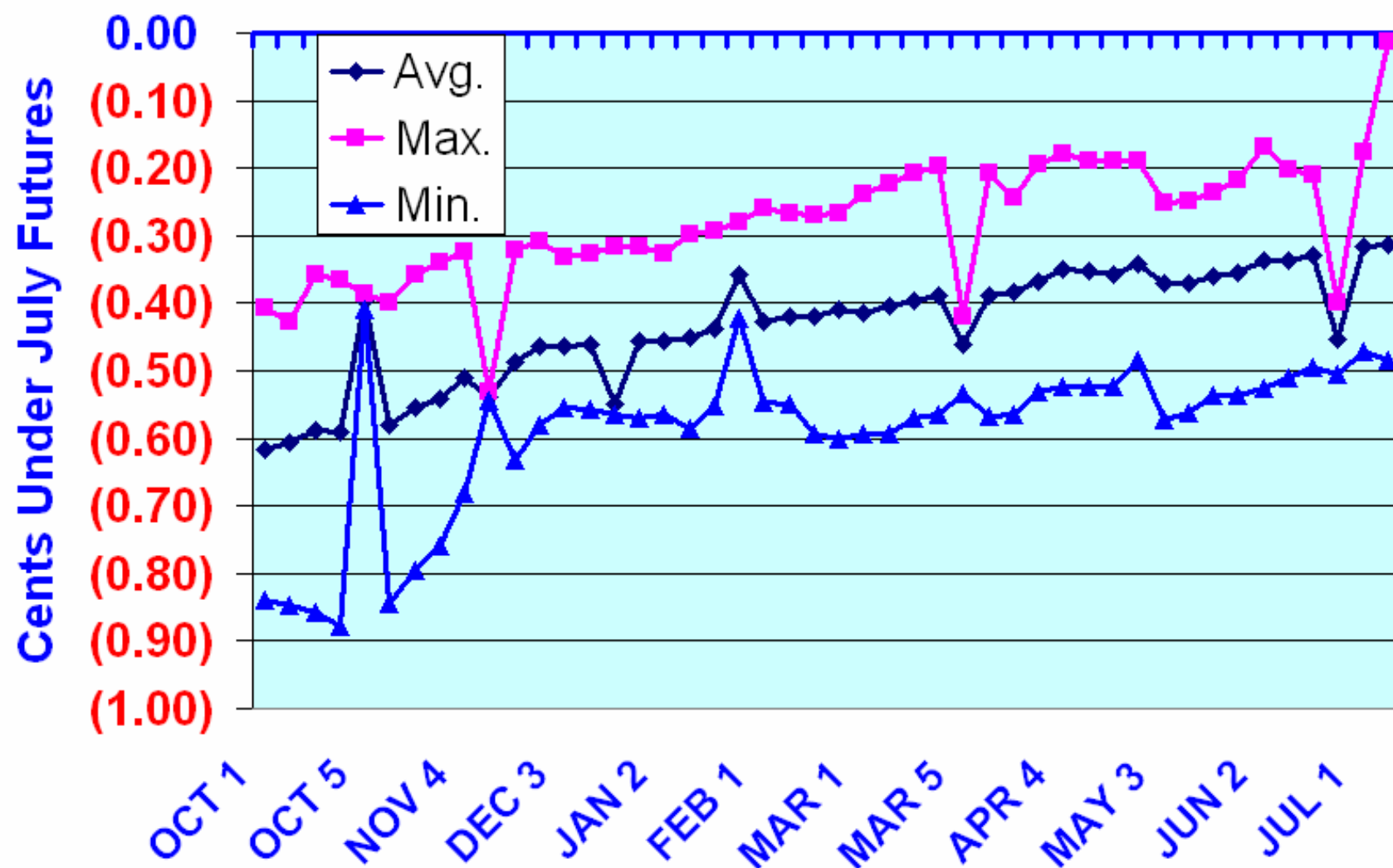
http://www.card.iastate.edu/ag_risk_tools/basis_maps/

\$ Under July futures

**Theoretical Seasonal pattern for C. Iowa
July basis**



N.C. Iowa corn Basis, 2000-01 to 2005-06



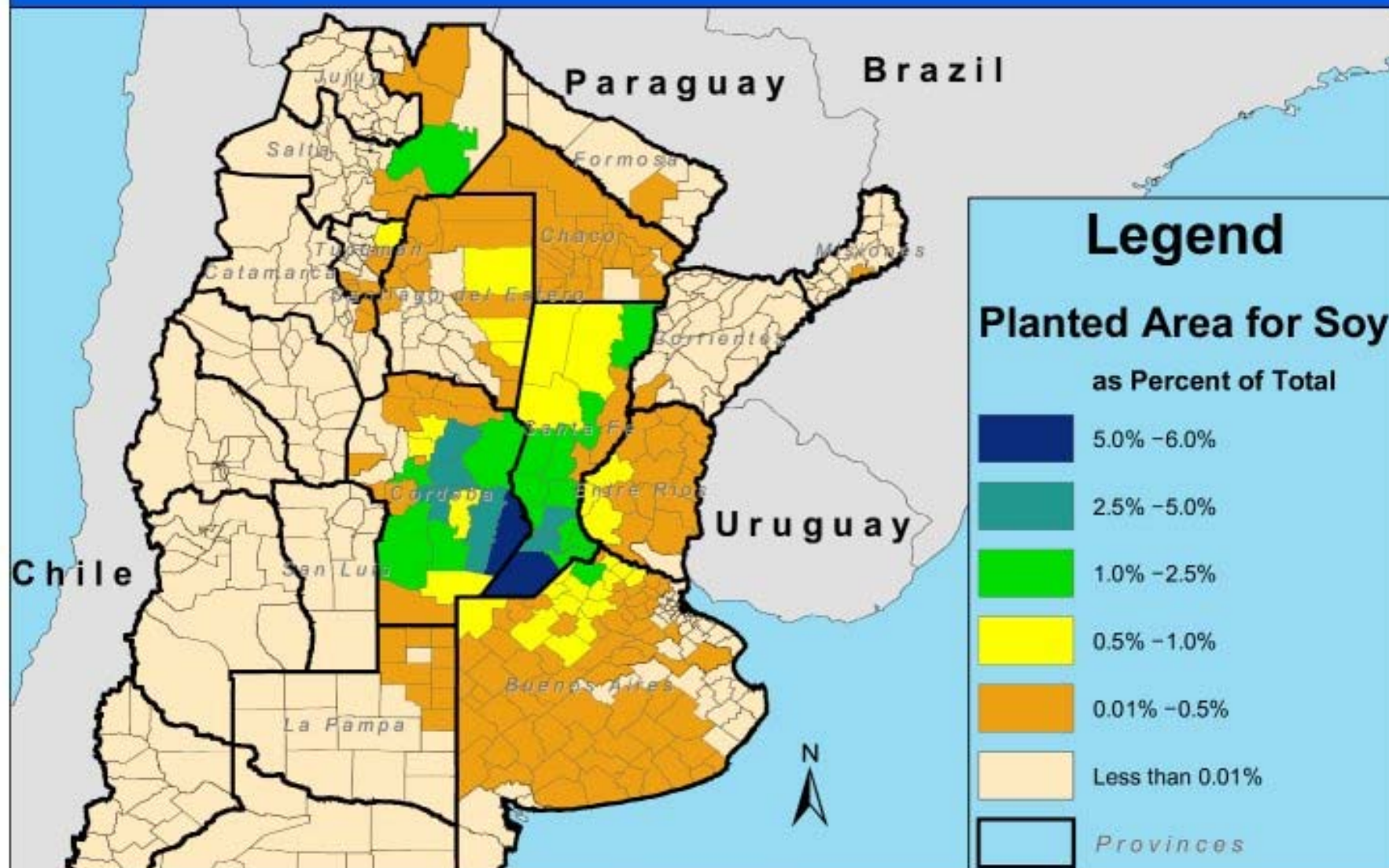
Implications of Emerging Energy Market

- *A lot more corn acres will be needed '08-2012*
- **Corn prices: volatile & weather-sensitive**
- **Basis opportunities will be greater**
- **More storage, handling capacity needed**
- **Spring 2006-07: look for periods of higher corn, prices, strong corn basis**
- **Cautions about selling 2008 and later crops**
- **Corn, biodiesel to support bean prices**
- **Options may be useful in managing risks**
- **Rent & Land Value Implications**

Concerns: 2008 & Beyond

- Potential explosive weather market
- Some “New Generation” contracts haven’t been tested in that type of market -- especially those with options sales
- With explosive market, *does fine print expose farmer to margin calls?*
- Could some companies exceed margin borrowing ability?

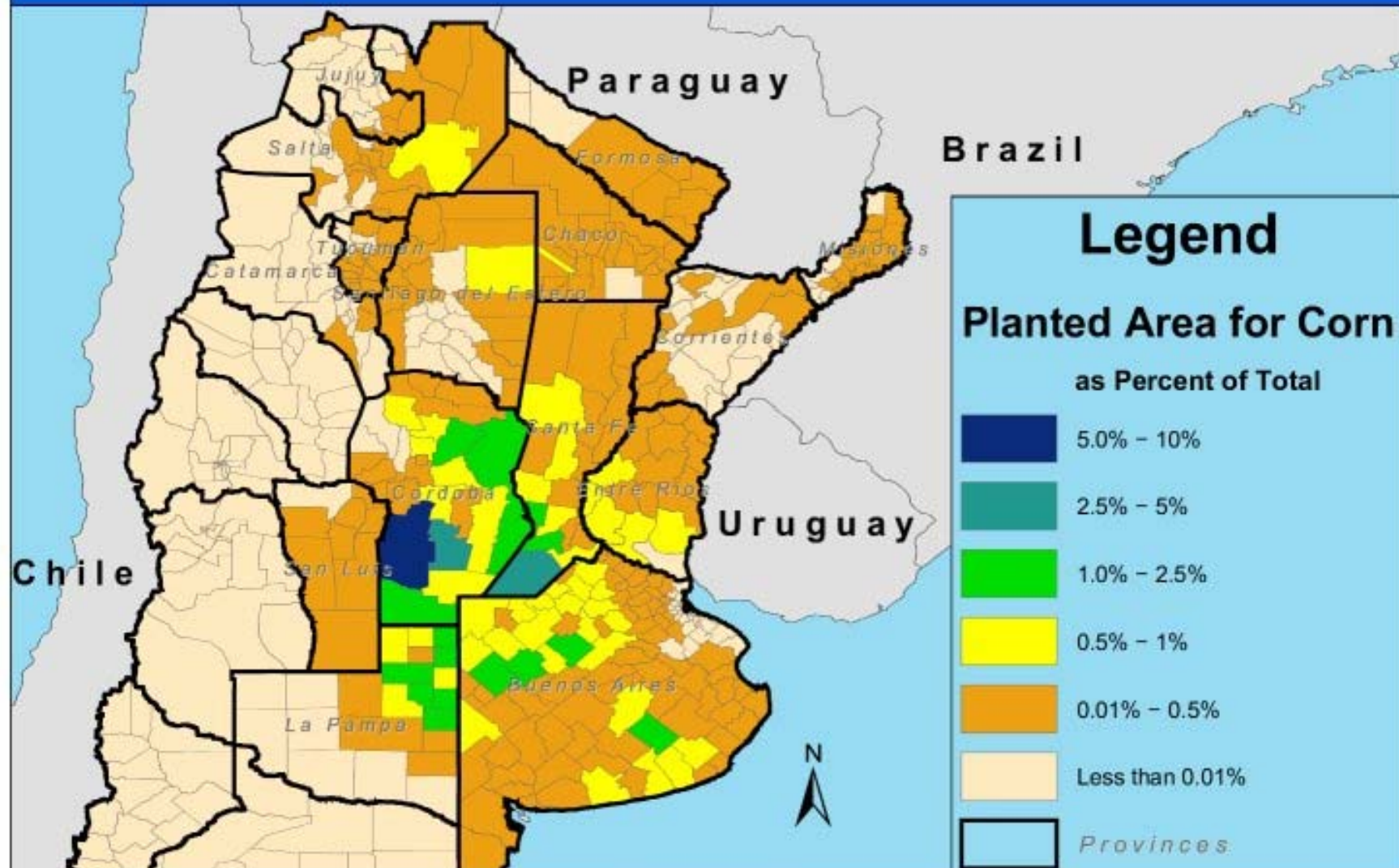
Argentine Soybean Planted Area



U.S. Department of Agriculture
Foreign Agricultural Service
Production Estimates and Crop Assessment Division
<http://www.fas.usda.gov/pecad/>
Robert.tetrault@usda.gov

Data Source:
Argentine Agricultural Secretariat (SAGPyA)
Department-level statistics for the five-year average of
planted area for soybean (1997/98 to 2001/02)
<http://www.sagpya.mecon.gov.ar/>

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Argentina 2007



Argentina 2007



Potential area to be cleared for crops

West Central Argentina 2007





**Argentina 2007,
Rosario on Rio Plata**









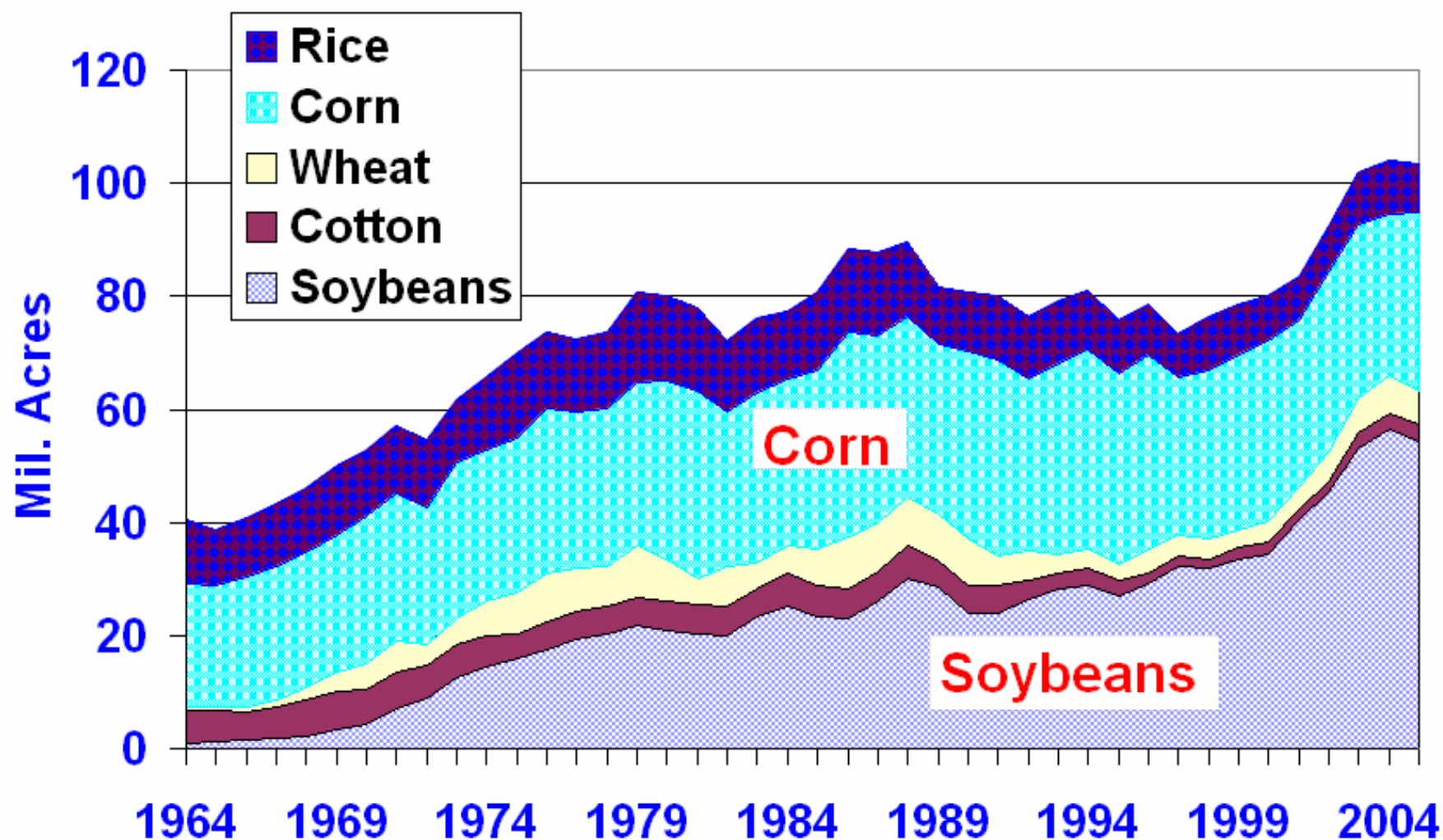
Rio Plata, Argentina: 35-40 miles wide & can take ocean vessels several hundred miles inland



11/05

Excluded Crops: Sugar, Coffee, Citrus & Other

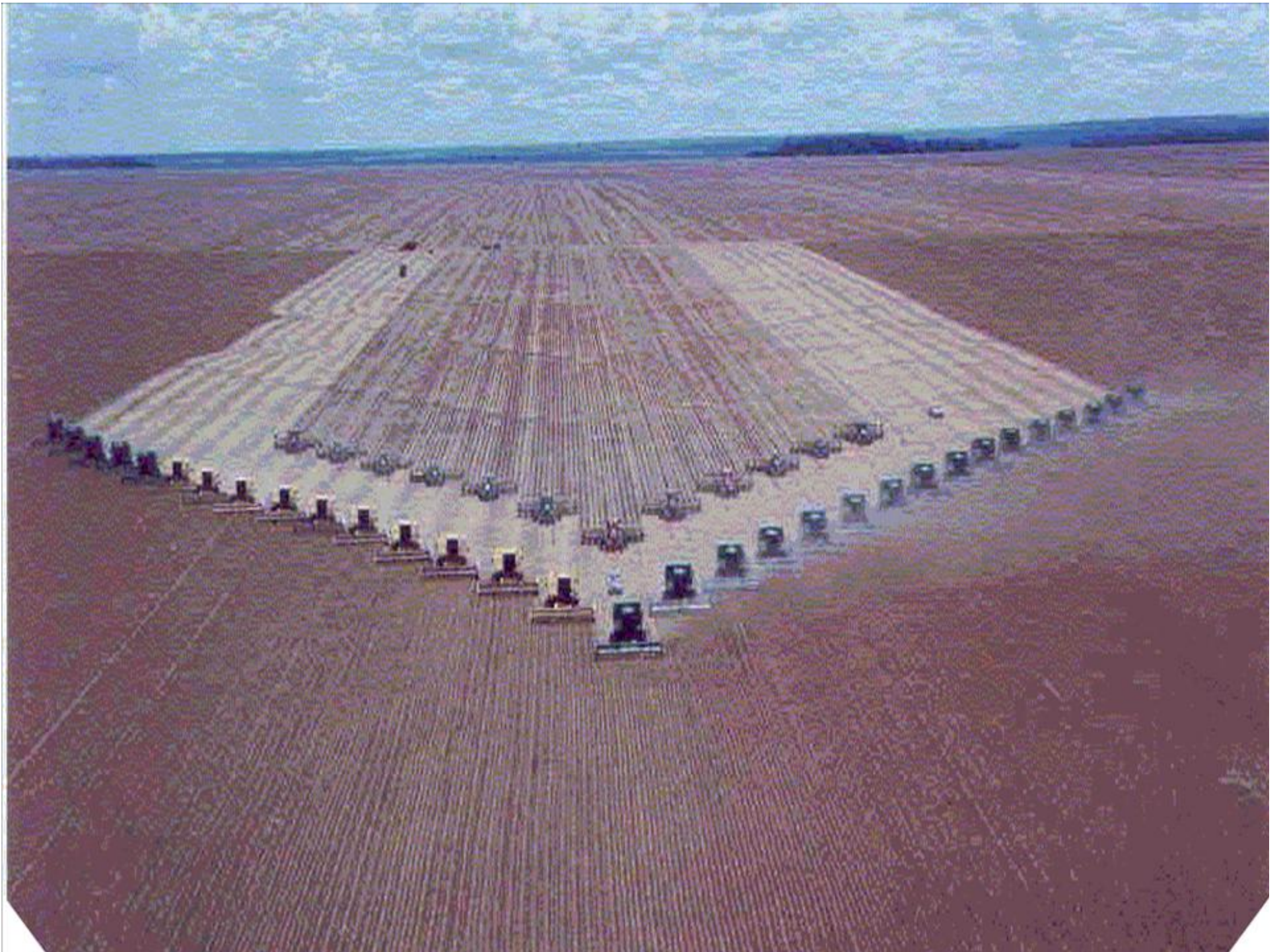
Brazil Major Crop Acres





***Brazil Cerrados
Top Soil 120 ft***





Newly Cleared Land In Brazil

Planted to Upland Rice







Cargill elevator on Amazon







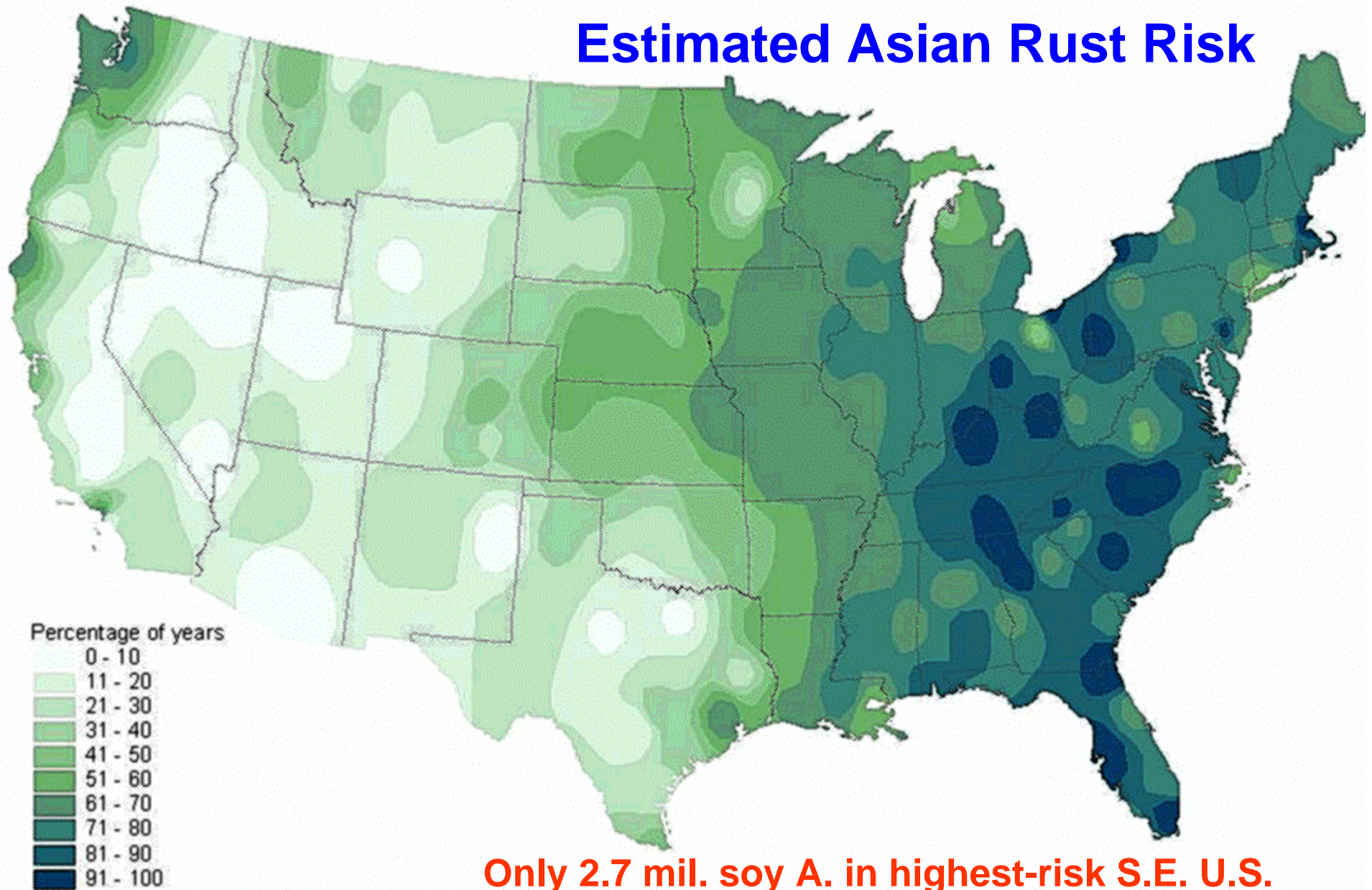
BR-364 (RO)
km 469 - 702



Ago/97

7% of years out of 50 that climatic conditions are expected to support Asian soy rust

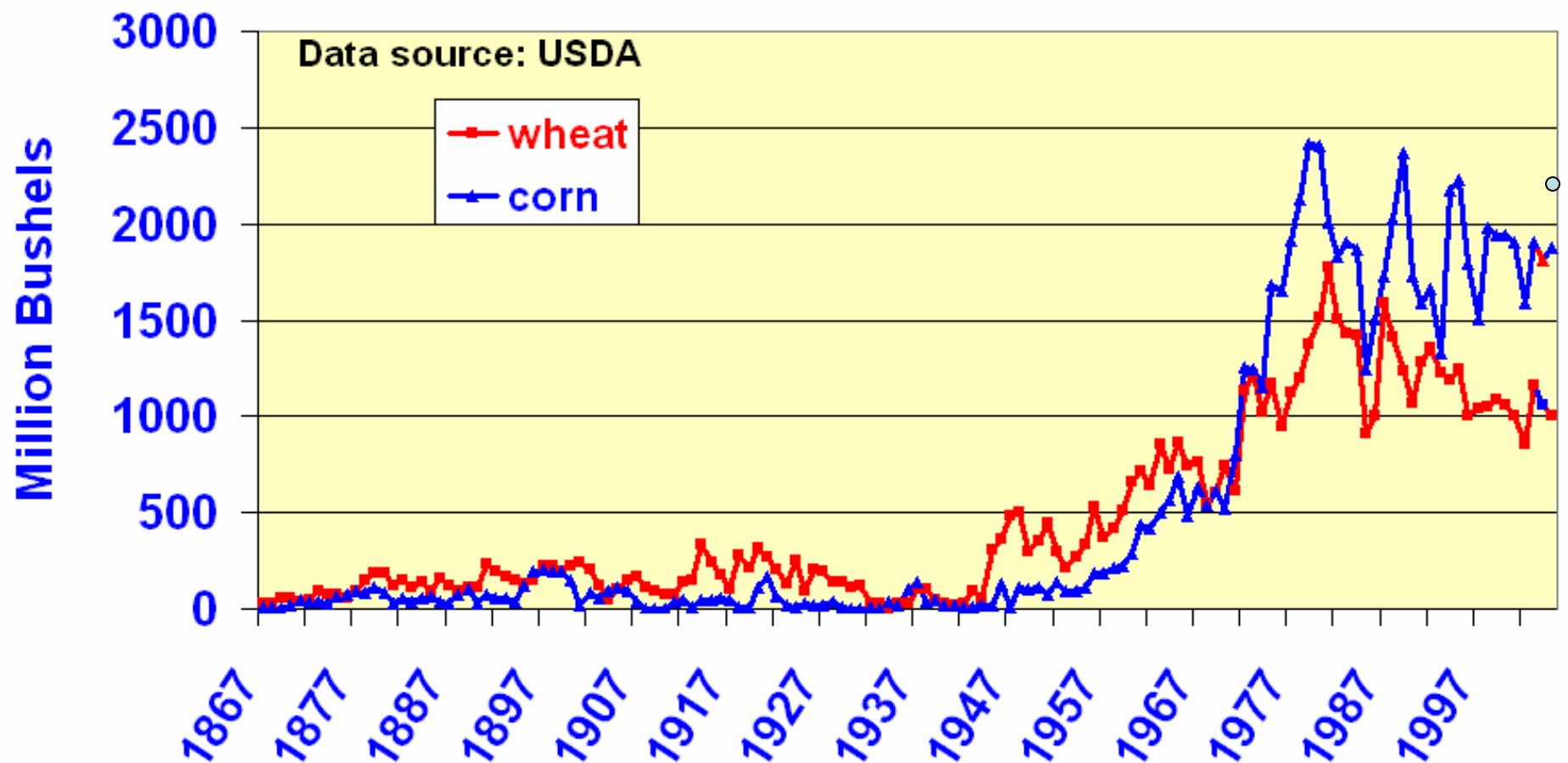
Estimated Asian Rust Risk



Only 2.7 mil. soy A. in highest-risk S.E. U.S.

Source: Magarey, R. Center for Plant Health, Science, and Technology, Animal and Plant Health Inspection Service, U.S. Department of Agriculture and North Carolina State University, Raleigh, NC, 2003.

Figure 3. U.S. Corn & Wheat Exports, 1867-2005



China's Net Corn Exports, 1970-2005-06 Marketing Years & Projected by USDA for 2006-07

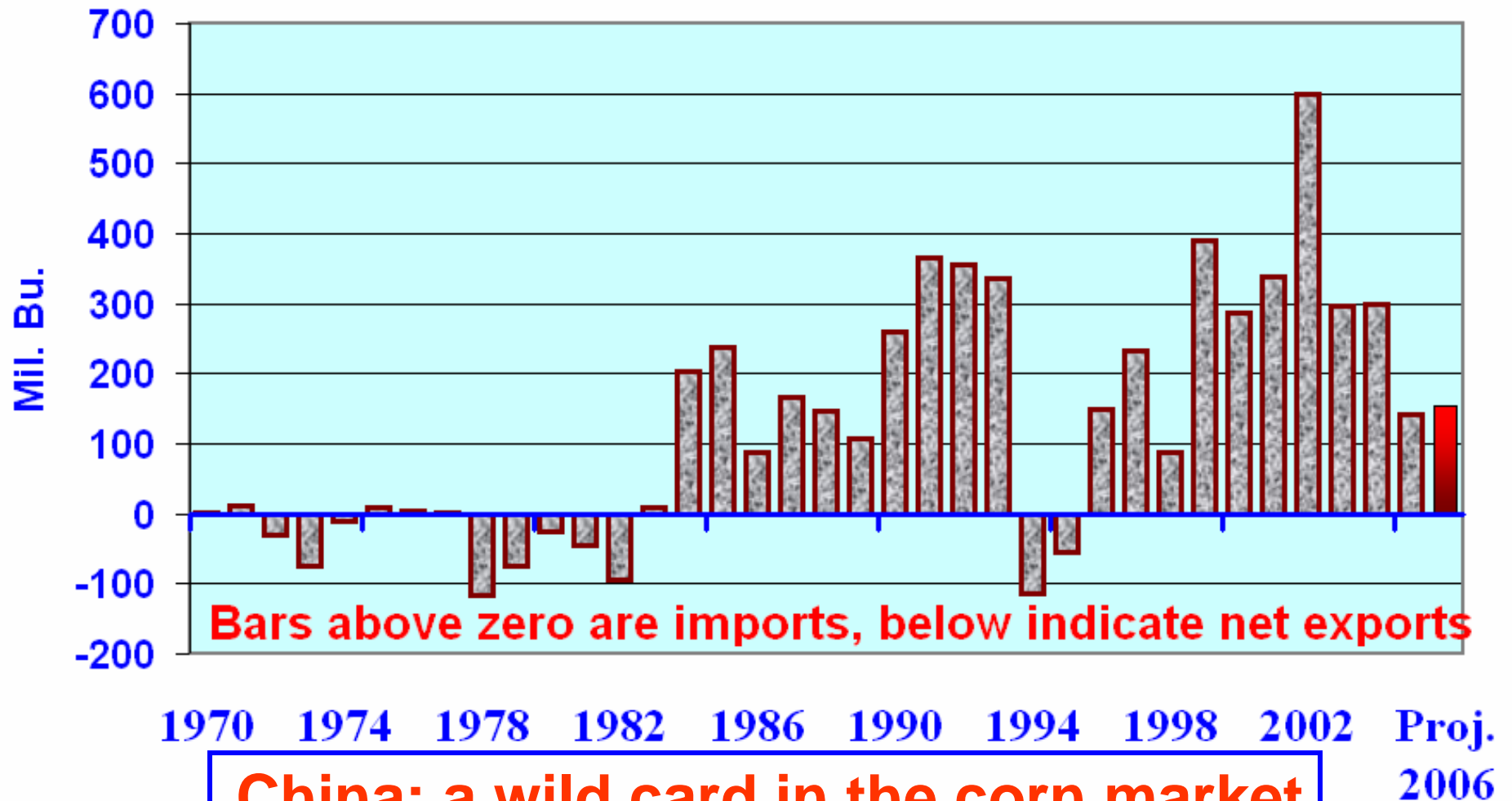
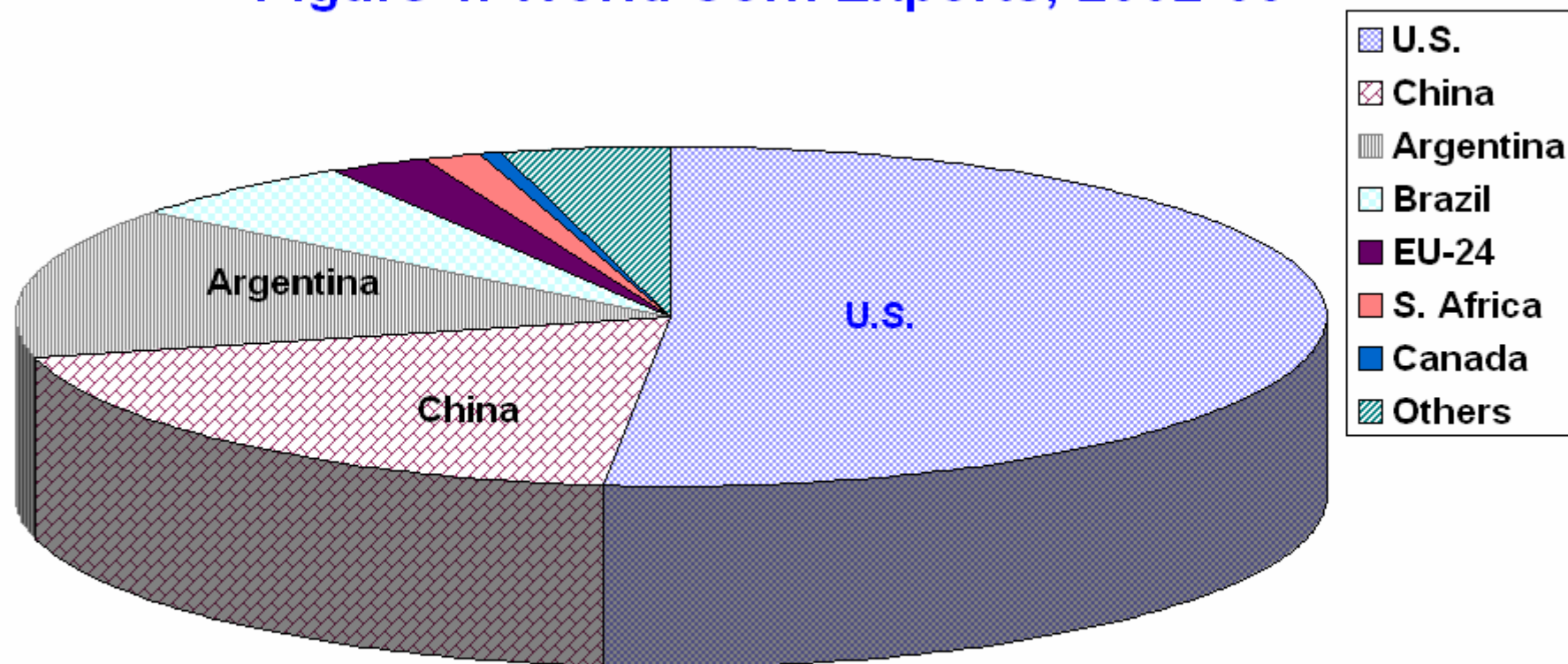


Figure 1. World Corn Exports, 2002-03







- **World futures markets (Price Discovery)**
 - **Chicago: corn, soft red wheat, soybeans, oats, rice**
 - **Kansas City: hard red winter wheat**
 - **Minneapolis: hard spring and hard white wheat, Corn & Soybean cash index markets**
 - **Tokyo: GMO & non-GMO soybeans, corn**
 - **Various other futures markets: Argentina, Brazil, China, Europe**
 - **Foreign exchange futures**

Other International Aspects of Grain Marketing

- Importing port: Wilmington, N.C.
- The world markets
 - Major grain importing countries
 - Import systems & infrastructure
 - Major grain exporting countries
 - Ocean freight (N.Y. Journal of Commerce)
 - GMO trends & preferences
 - Trends in foreign production & use
 - Trade agreements: NAFTA, WTO, possible Latin American agreement
 - Foreign inspection & grading

Why Marketing is Critical

- ⌘ Typical Corn Net Profit Margin, Past Years: \$.30/bu.**
- ⌘ \$.10 increase in Price = 33% increase in Net Returns**
- ⌘ Also Works in Reverse**

Table 1. Corn Cash-flow Costs Per Acre, Selected Types of Farms in Iowa

Cash-Flow Costs/A	<u>Owners</u>	<u>Renter</u>	<u>50/50 Crop-share</u>	<u>1/3-2/3 Buyers</u>
Seed, fertilizer, pesticide	\$181	\$181	\$90.50	\$181
Corn March 07				
Insurance, interest, misc.	14	38	12	24
Fuel and repairs	42	42	42	42
Drying	40	40	20	40
Custom hire and labor hire	18	18	18	18
Rent and real estate taxes	22	180	0	130
Fixed debt payments	0	12	9	80
Family living, income tax	<u>65</u>	<u>52</u>	<u>52</u>	<u>45</u>
Total cash flow needs	\$382	\$563	\$243.5	\$560
Cash flow costs/bu., 180 bu./A.	\$2.12	\$3.13	\$2.71	\$3.11

Cash Flow Risk Ratio for Corn

Partly from Dr. William Edwards, ISU Economics Department

April 07

	50/50		1/3-2/3	
	<u>Owners</u>	<u>Renter</u>	<u>Crop Share</u>	<u>Buyer</u>
Cash flow cost per acre	\$382	\$563	\$243.5	\$560
Govt. payments?	-\$9	-\$9	-\$4.50	-\$9
Cash needed from sales	\$373	\$554	\$239.5	\$551
Expected or actual yield (bu.)	185	185	92.5	185
Cash flow breakeven price	\$2.03	\$2.99	\$2.59	\$2.98
Hedged market price (\$/bu)	<u>\$3.22</u>	<u>\$3.22</u>	<u>\$3.22</u>	<u>\$3.22</u>
Cash flow risk ratio	63%	93%	80%	92.5%

Cash flow R. R., \$2.95 price? 69% 101% 88% 101%

Interpretation: @ \$3.22 price, Owners need to sell 63% of crop to cover cash-flow needs.

Cash-Flow Risk Ratio:

Percent of the crop required to be sold to cover cash-flow costs

- **Formula for computation:**
- **Cash-flow break-even price divided by selling price**

Corn cash-flow cost with varying corn yields After Deducting Govt. Payments

March 2005

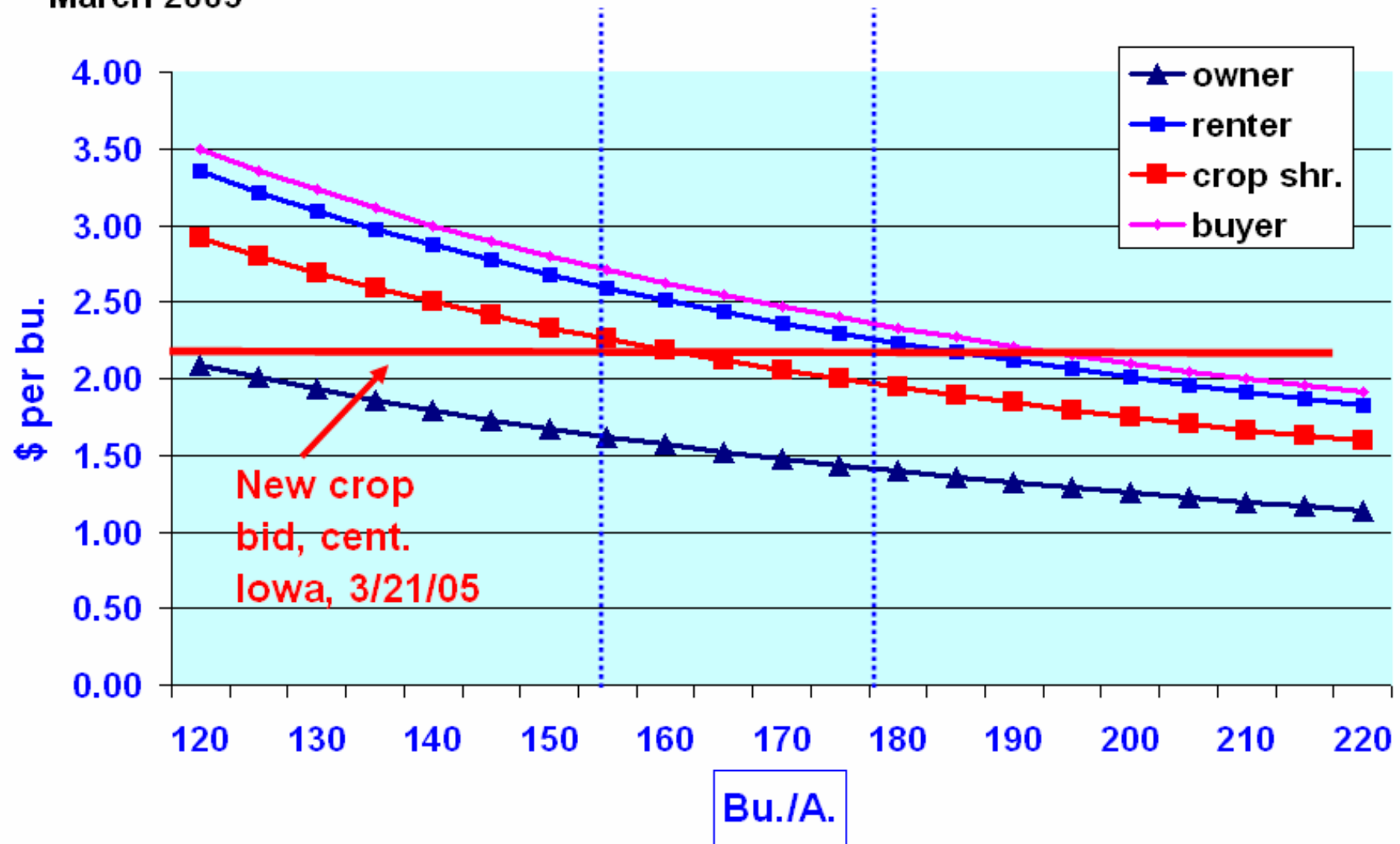


Table 5. Example Net Worth Risk Ratios For Corn in Central Iowa

March 05

	<u>Owners</u>	<u>Renters</u>	<u>Crop-share</u>	<u>Buyers</u>
000 \$ assets	\$1,931.5	\$317.3	\$210.2	\$1,111.7
000 \$ liabilities	\$0	\$157.3	\$54.6	\$556.0
000 Net worth	\$1,931.5	\$160.0	\$155.6	\$444.3
Net worth risked (10%)	193,150	16,000	15,560	44,430
Crop acres	600	600	600	600
Net worth risk ratio	\$322	\$27	\$26	\$74
<i>Max.Loss/bu.,norm. yld.</i>	1.95	0.16	0.32	0.45

Interpretation: A loss of \$0.16/bu. (from cash-flow break-even price would reduce renter's net worth by 10%.

Net Worth Risk Ratio, Continued

March 05

Owners Renters Crop-share Buyers

Corn price where 10% of net worth is lost:

-\$0.56	\$2.07	\$1.62	\$1.88
	↑	(after Govt. Pmts.)	↑

**Cash flow Break
even Price**

\$1.39	\$2.23	\$1.94	\$2.33
---------------	---------------	---------------	---------------

**Price decline below B/E for
10% equity loss**

\$1.95	\$0.16	\$0.32	\$0.45
---------------	---------------	---------------	---------------

Fall bid, 3/18/05: **\$2.08** **\$2.08** **\$2.08** **\$2.08**
(N. Central Iowa)

Fall bid, 3/22/04: **\$2.79** **\$2.79** **\$2.79** **\$2.79**
(N. Central Iowa)

Net-Worth Risk Ratio

- **The maximum dollars per acre which can be lost in any one year before a predetermined percentage of the equity is lost.**

Calculating Net-Worth Risk Ratio

- **Max. dollars of net worth to be placed at risk divided by number of acres = Max.\$ that can be risked per acre**
- **To compute max. loss per bu. : divide \$/A. by normal yld. = \$/bu. that can be risked for pre-determined loss of equity**

Table 4. Soybean Cash-Flow Costs Per Acre, Selected Types of Farms				
March 05	<u>Owners</u>	<u>Renter</u>	^{50/50} <u>Crop-share</u>	^{1/3-2/3} <u>Buyers</u>
Seed, fertilizer, pesticide	\$84	\$84	\$42	\$88
Insurance, interest, misc.	10	15	8	16
Fuel and repairs	16	16	16	16
Drying	0	0	0	0
Custom hire and labor hire	8	8	4	8
Rent, real estate taxes	21	160	0	115
Fixed debt payments	0	11	11	74
Family living, income tax	<u>46</u>	<u>34</u>	<u>36</u>	<u>28</u>
Total cash flow needs	\$184	\$328	\$117	\$345

Cash Flow Break-even & Risk Ratio for Soybeans

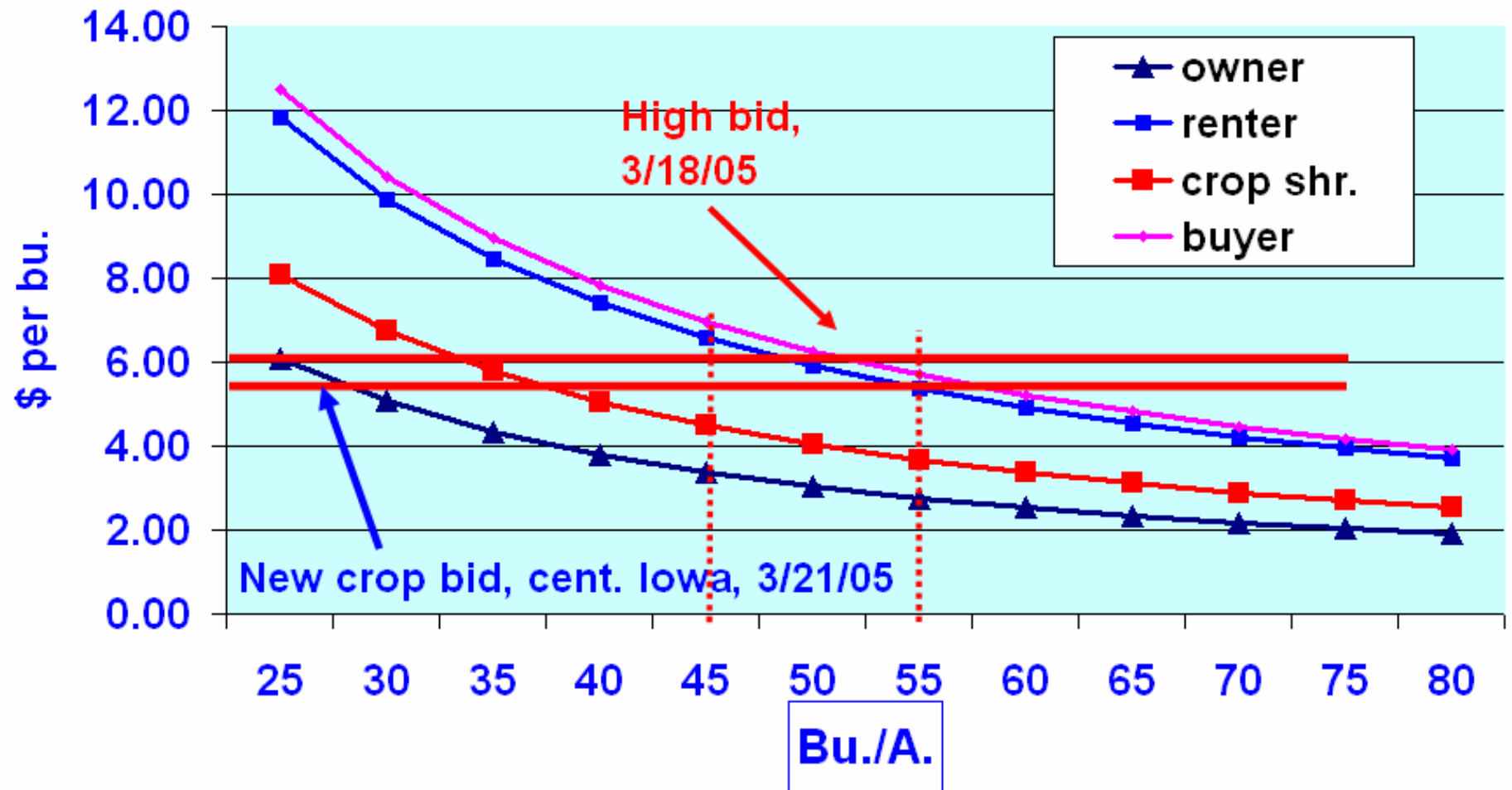
Partly from Dr. William Edwards, ISU Economics Department

March 05	50/50			
	<u>Owners</u>	<u>Renter</u>	<u>Crop Share</u>	<u>1/3-2/3 Buyer</u>
Cash flow cost per acre	\$184	\$328	\$117	\$345
Govt. payments?	-\$32	-\$32	-\$16	-\$32
Cash needed from sales	\$152	\$296	\$101	\$313
Expected or actual yield (bu.)/A	48	48	24	48
Cash flow breakeven price	\$3.17	\$6.17	\$4.21	\$6.52
Hedged market price (\$/bu)	<u>\$5.86</u>	<u>\$5.86</u>	<u>\$5.86</u>	<u>\$5.86</u>
Cash flow risk ratio	54%	105%	72%	111%

Note: Offer contract 3/15 could have triggered sales for renter near c-f break-even

Interpretation: @ \$5.86 price, Owners need to sell 54% of crop to cover cash-flow needs.

Soybean cash-flow cost with varying yields After Deducting Govt. Payments



Mktg. Plan

- Starting point in a mktg plan: financial needs of the business
- Know your break-even price
- Know your risk-bearing ability
- Plan marketing with a goal of at least covering cash-flow needs
- Look for mktg. & insurance tools to minimize risk of losing the business
- Role of Offer Contracts
- Timing

Govt. Payments

- Loan Deficiency Pmts: Market Sensitive

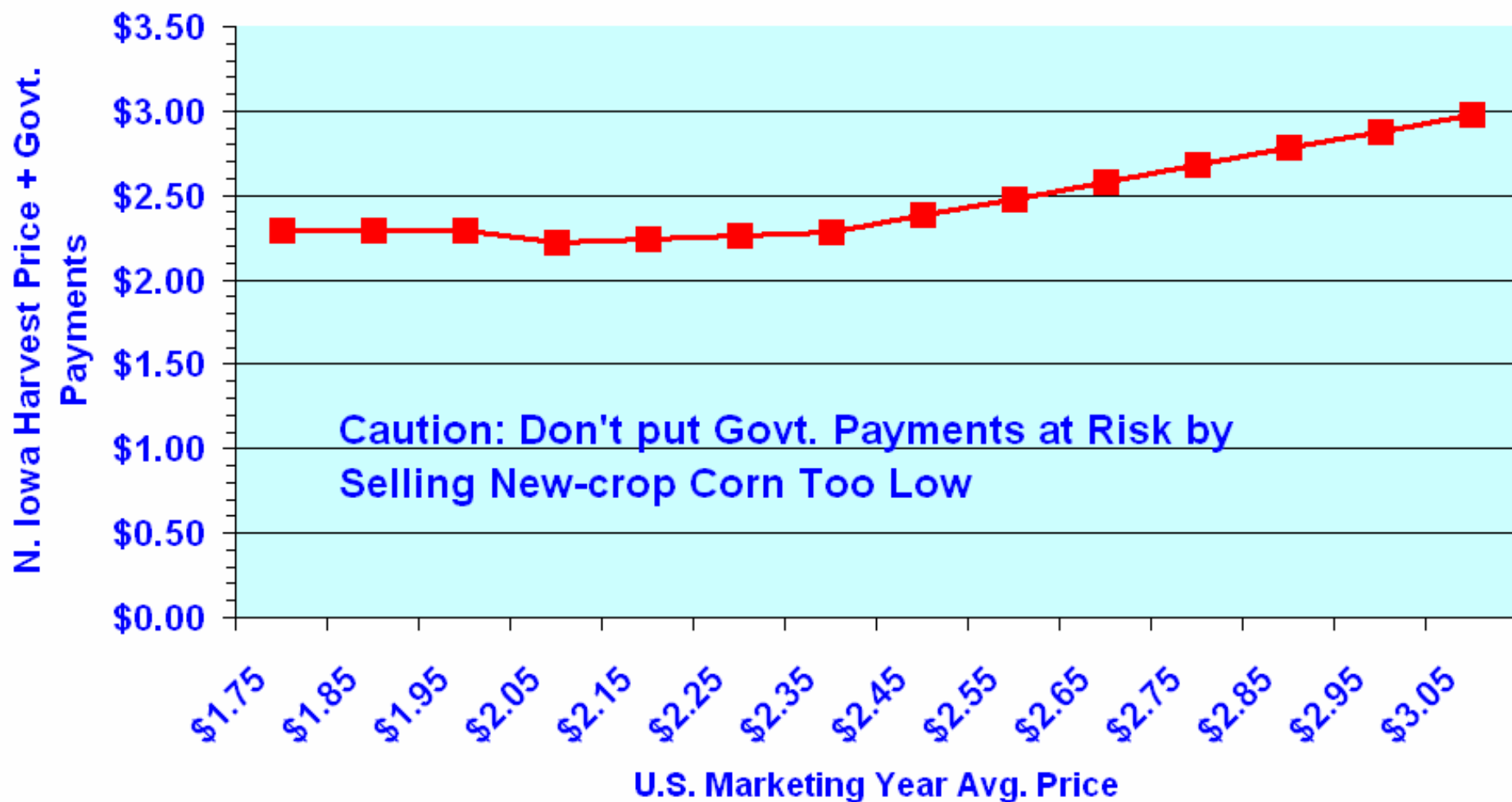
LDP is Positive if Posted County Price
is Below Loan Rate: $LDP = LR - PCP$

- Counter Cyclical Pmts: Market Sensitive

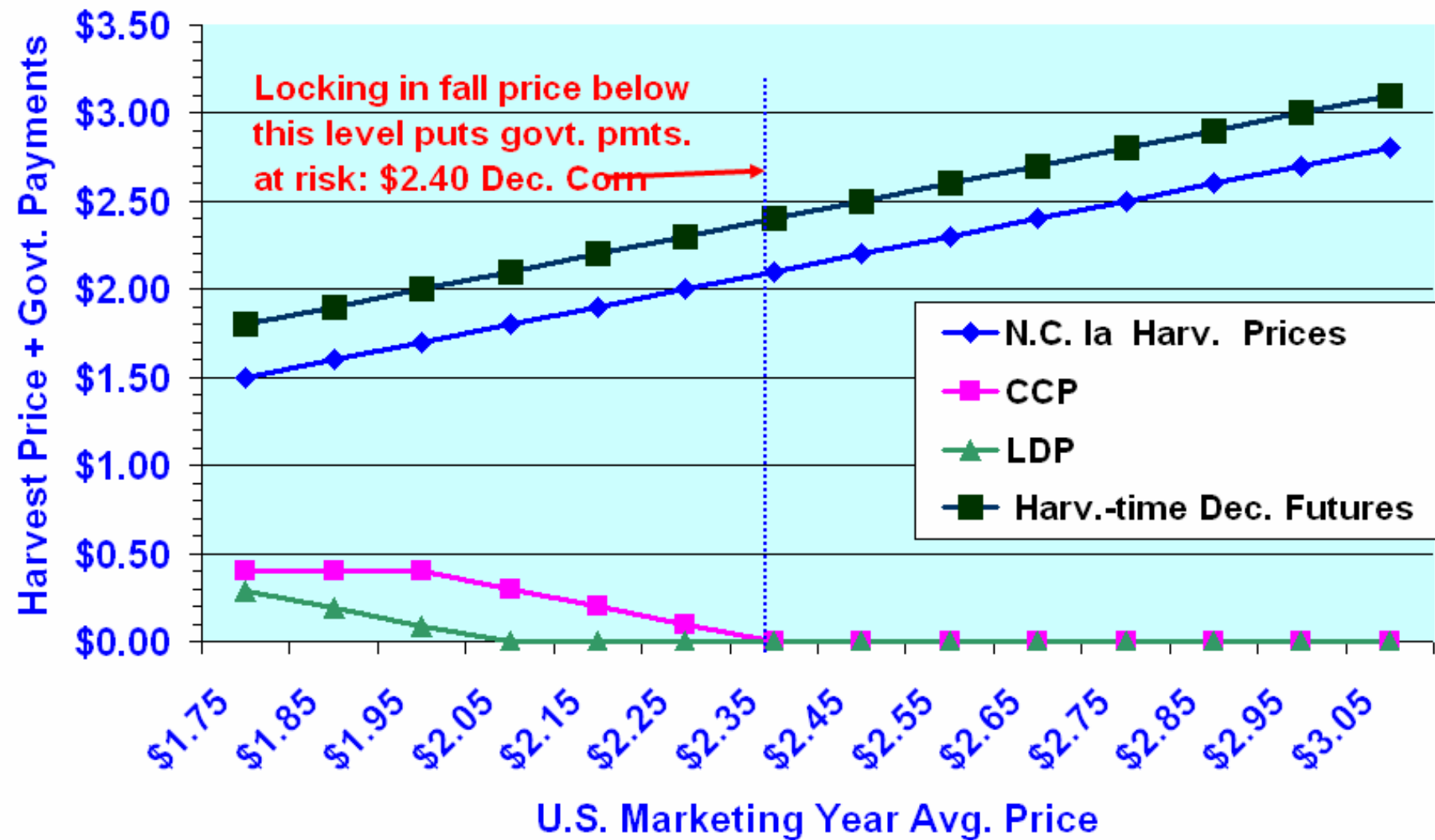
CCP Paid if higher of $\$2.35 - LR$ or $\$2.35 -$
U.S. Mktg. Year Avg. Price is positive

- Direct Payment: Not Market Sensitive

Iowa Harvest Corn Price Plus Govt. Payments with Varying U.S. Season Average Price

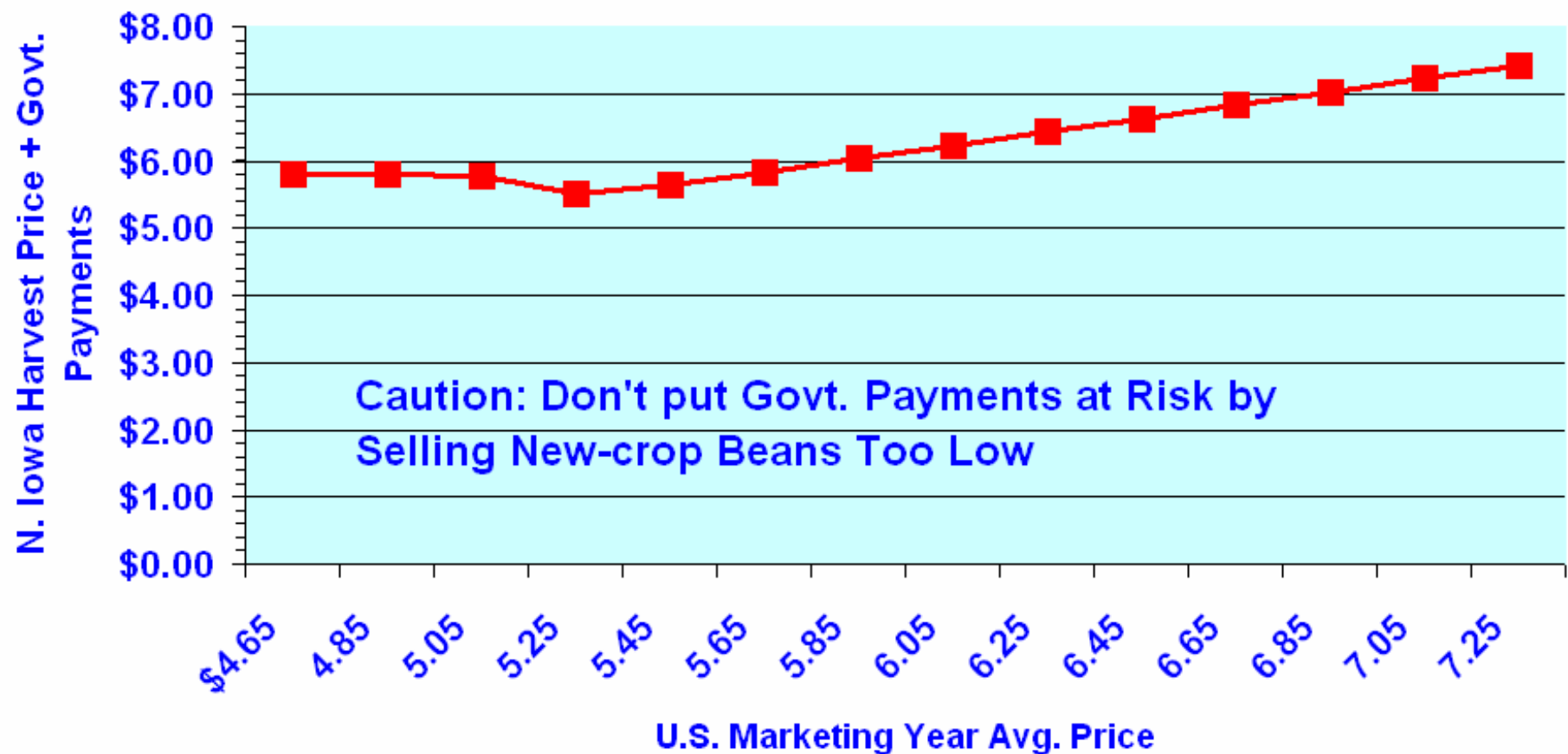


Iowa Harvest Corn Price Plus Govt. Payments with Varying U.S. Season Average Price

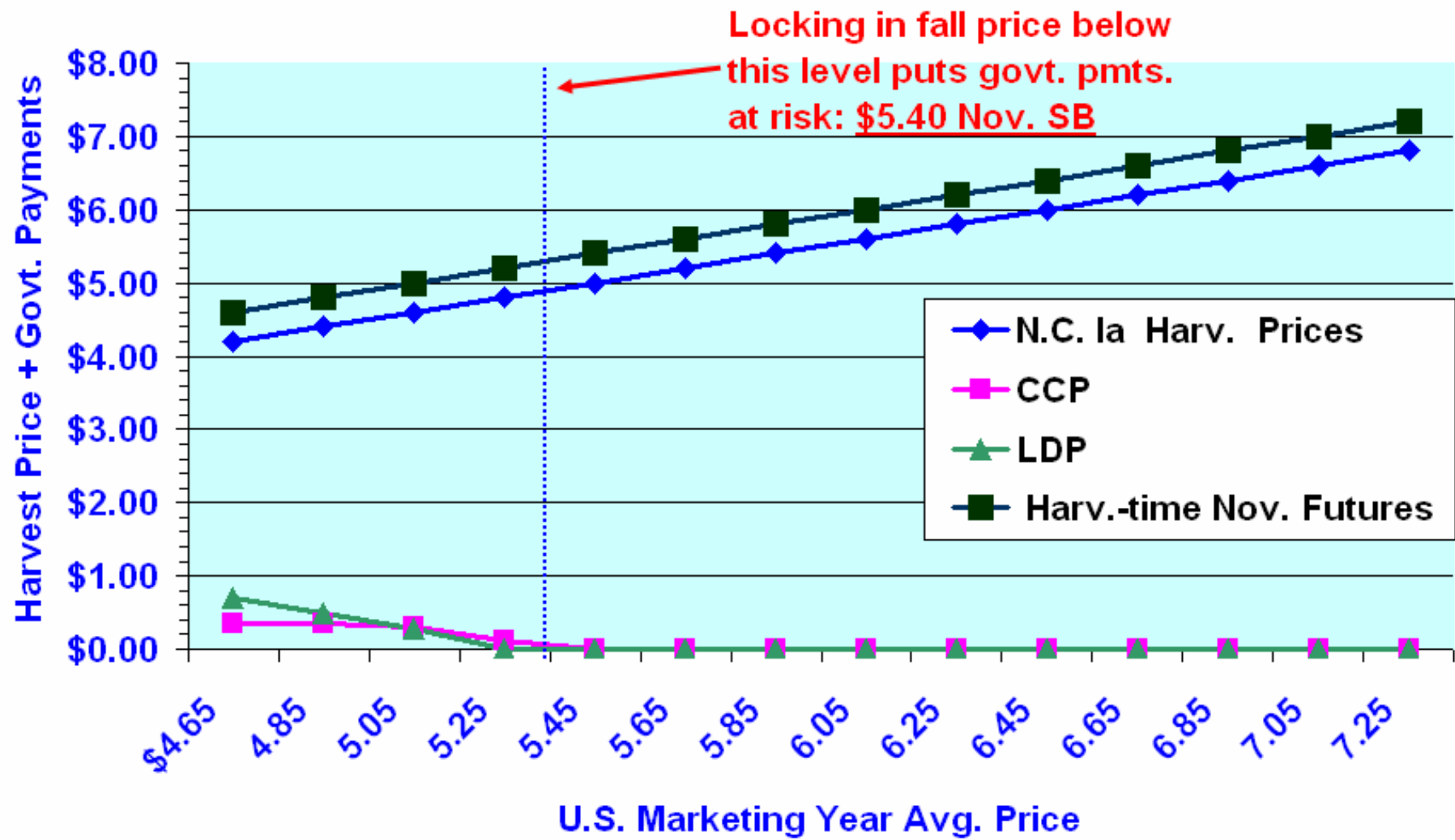


Iowa Harvest Soybean Price Plus Govt. Payments with Varying U.S. Season Average Price

March 05



Iowa Harvest & Nov. Futures Price Plus Govt. Payments with Varying U.S. Season Average Price



Key Elements in Grain Contracts

- Quantity & quality
- Delivery date
- Delivery location
- Pricing formula
- Quality differentials
- Adjustments if quality is not met
- Date
- Signature of both parties

Grain Contracts: Areas of Risk Exposure

- Price Level
- Basis
- Spreads (Intra-and Inter-Year)
- Options volatility risk
- Production risk
- Counter-party risk
- Control risk
- Tax risk

Types of conventional grain contracts

- Forward contract: locks in price & basis
- Delayed price: price & basis are open
- Price later: same as above (credit sale)
- Hedge-to-arrive (non-roll): locks in futures, **but not basis**
- Delayed-payment: shifts income for tax purposes
- Basis contract: **locks in basis**, not futures
- Minimum-price: retains upward flexibility (**@ a cost**)

Basis: Key to Understanding Regional Variations in Price

Three Components of Price:

- **Level = Futures**
- **Basis**
- **Spreads over Time**

**Basis: Cash Price Minus a Specific Futures
Contract price**

Example: N.C. Iowa Cash Price @ \$3.29

May futures @ \$3.63 (4/05/07)

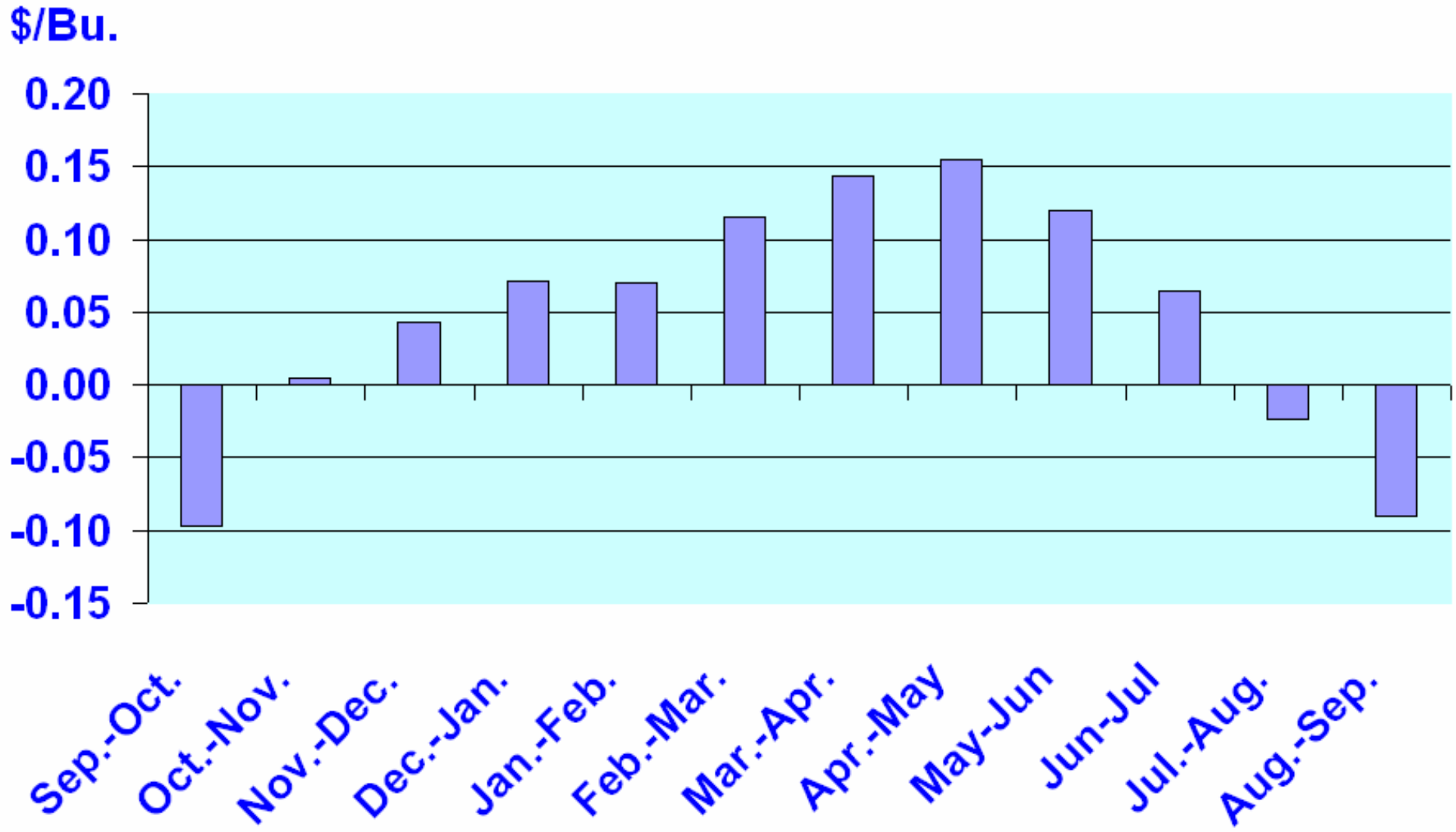
Basis?

Storage Economics

- **Costs to store on & off farm**
- **Seasonality of prices**
- **Harvest basis & carrying charge**
- **Timing and amount of cash-flow needs**

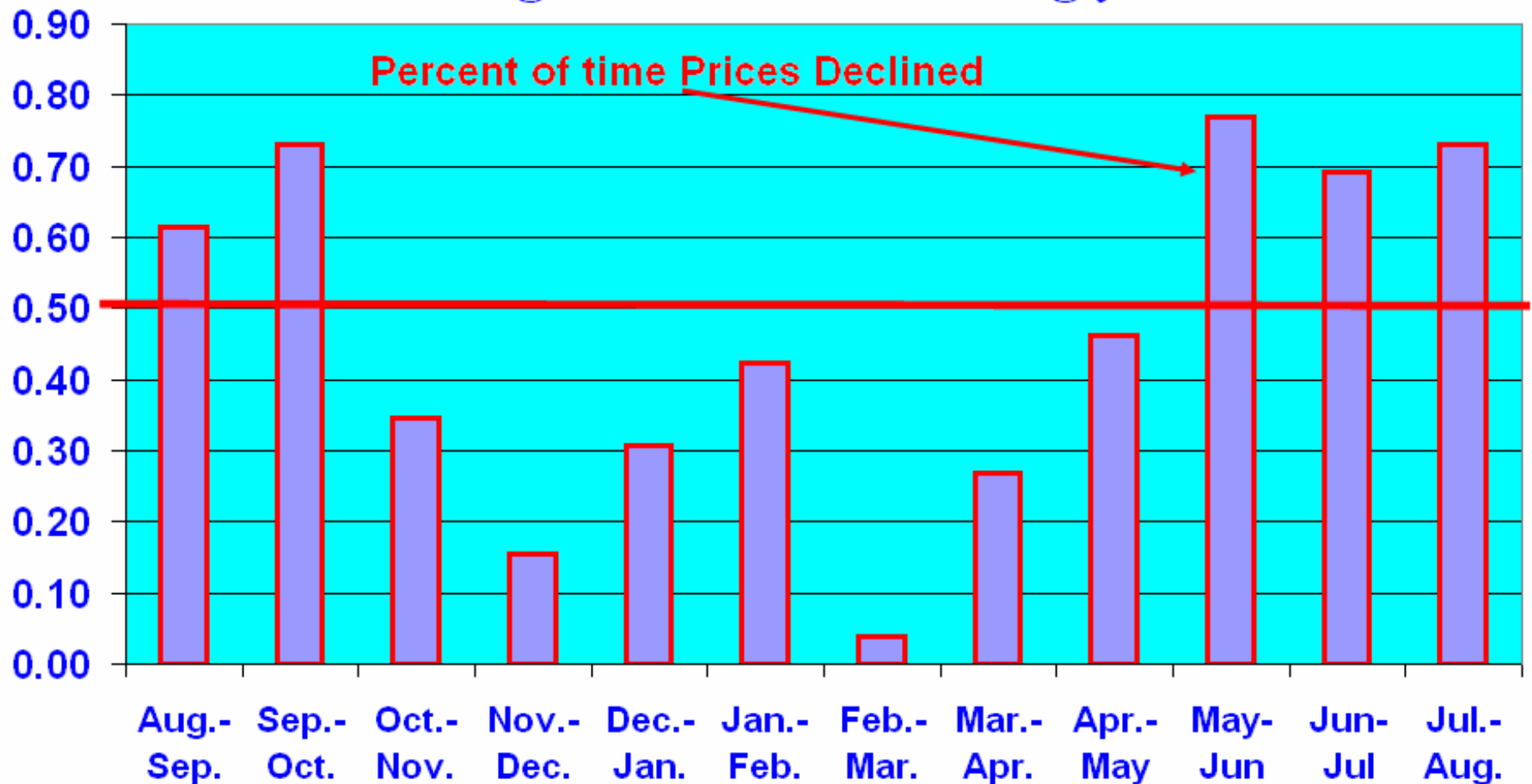
Before Biofuels Boom

Average Iowa return over interest cost for on-farm storage of corn, 1979-80 through 2002-03



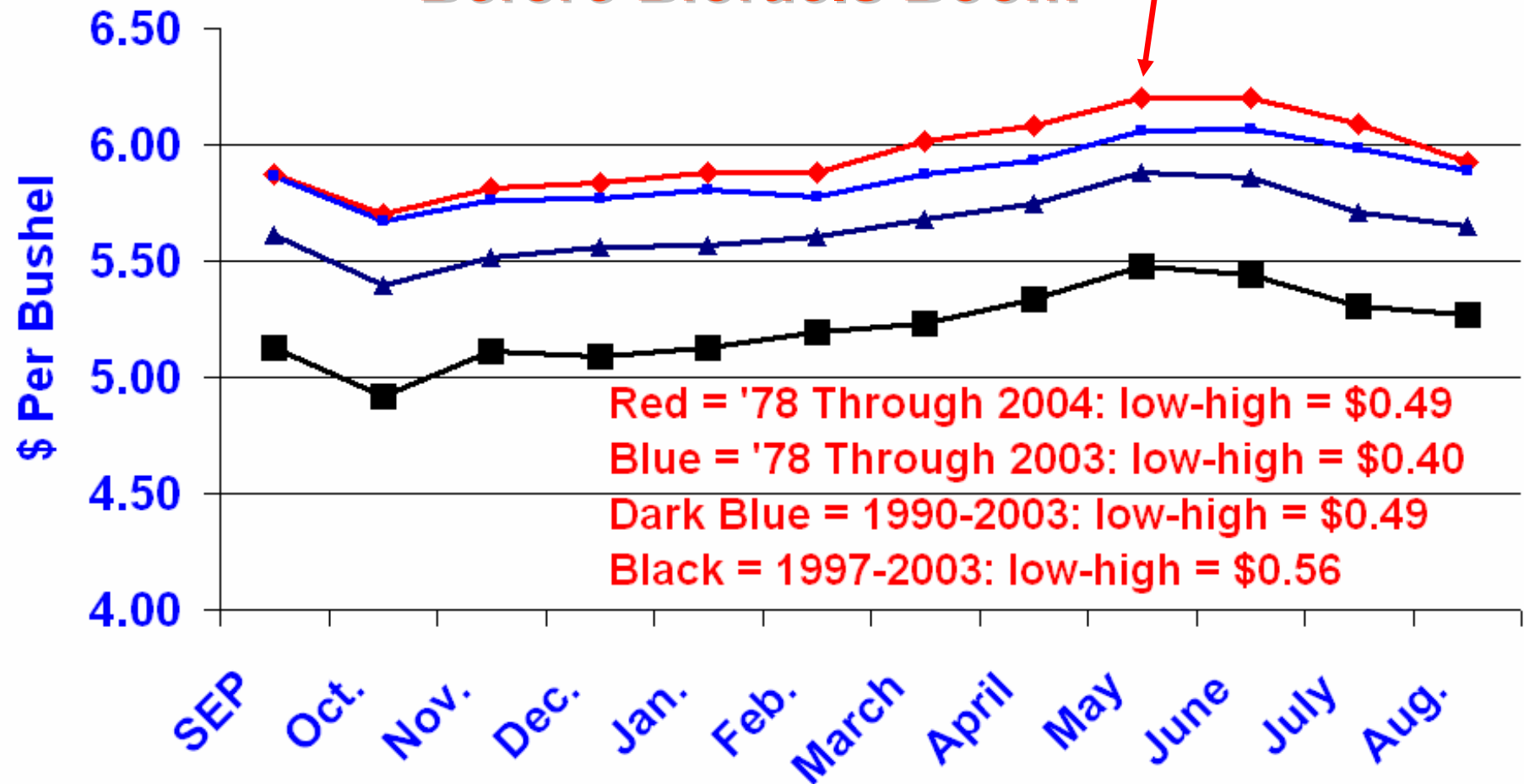
Before Biofuels Boom

Percent of time monthly Iowa corn Prices have declined from one month to the next, 1989-90 Through 2003-04 Marketing years



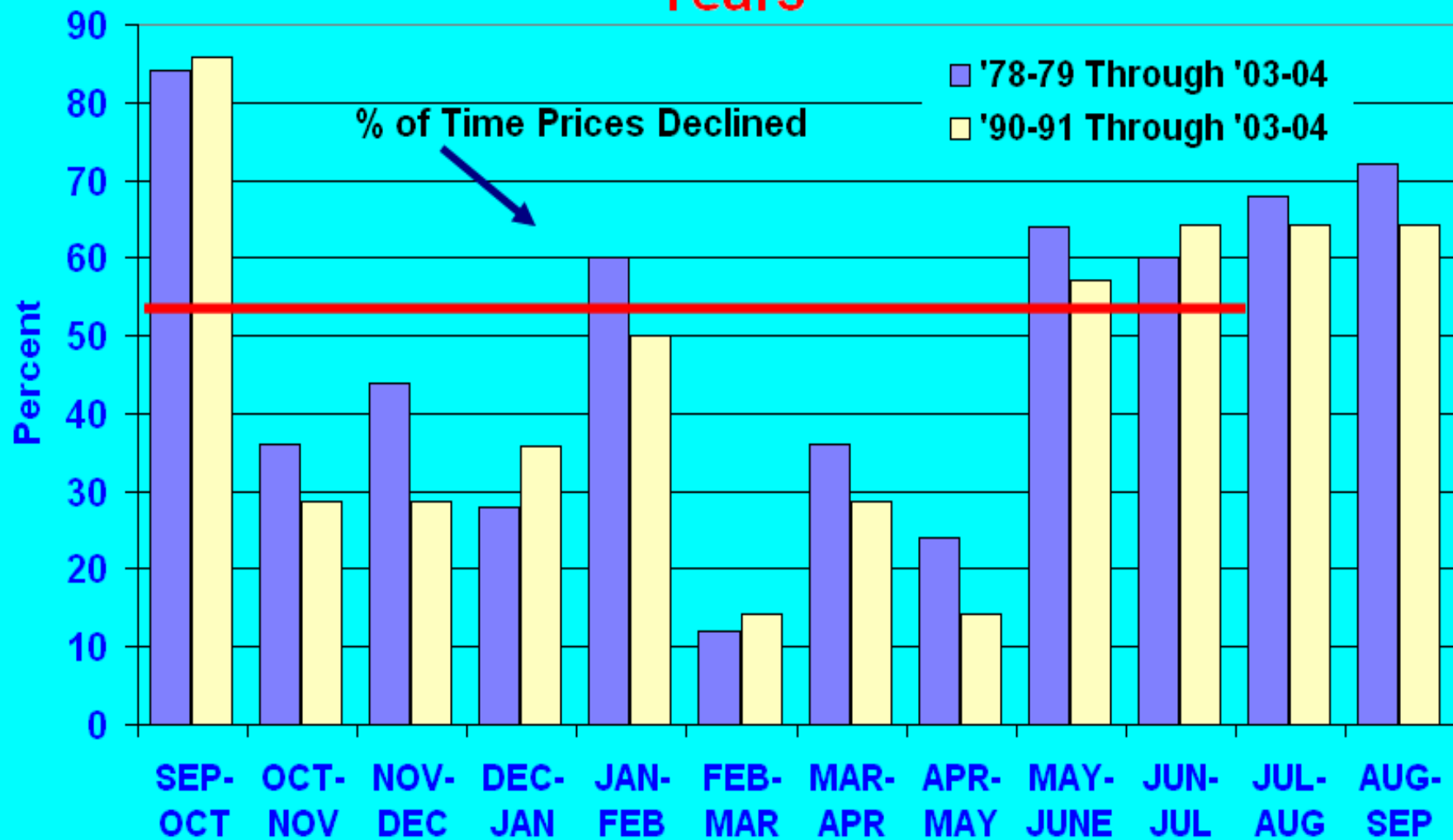
Iowa Monthly Avg. Soybean Prices, 1978-79 through 2003-04

Before Biofuels Boom



Before Biofuels Boom

Percent of time Iowa Monthly Soybean Prices Declined (month to month), 1978-79 Through 2003-04 & 1990-91 Through 2003-04 Marketing Years



Key Points

- Starting point in a mktg plan: financial needs of the business
 - Know your break-even price
 - Know your risk-bearing ability
 - Plan marketing with a goal of at least covering cash-flow needs
 - Look for mktg. & insurance tools to minimize risk of losing the business
- Start Early**

Marketing Tools

- **Futures markets**
- **Options markets**
- **Elevator contracts**
- **New-generation contracts**
- **Storage on & off the farm**
- **Basis as a tool for determining where to**
- **sell & a partial answer to the “When to sell?” question**

Ways of Using Basis information for farmer marketing

- **For evaluating forward contracts**
- **For pre-harvest & storage hedging decisions**
- **For market signals**
- **For decisions about ownership of grain or options**

10 Traits of a Successful Grain Marketer

1. Starts Early (before planting)
2. Knows production, storage costs & risk bearing ability
3. Understands basis & mkt. carry
4. Follows several relevant markets daily
5. Manages yield risk with revenue insurance
6. Has discipline to price when goals are reached
7. Knows various contracts & when to use them
8. Relies on good sources of market information
9. Has an exit plan
10. Keeps marketing records & evaluates results

Assignment I

- Update Cash-flow break-even prices for corn & soybeans using Duffy & Smith “Costs of Crop Production, 2008”

Assignment II: Advisory Service Performance

http://www.farmdoc.uiuc.edu/agmas/reports/03_06/text.html

Univ. of Illinois does an annual evaluation of Ag Market Advisory Services. You can get the report at the above web address.

Assignment: Working individually or in teams of 2-4 people, answer these questions:

- 1. For the advisory services as a group, how much better in average cents per bushel are they than the average price received by farmers? _____ corn _____ soybeans**
- 2. For the services as a group, how does their average price compare with the 20-month market benchmark? Corn _____ Soybeans _____ .**
- 3. For the services as a group, how does their average price compare with the 24-month market benchmark? _____ Corn, _____ Soybeans.**

http://www.farmdoc.uiuc.edu/agmas/reports/03_06/text.html

Univ. of Illinois annual evaluation of Ag Market Advisory Services, assignment, cont.

Questions:

- 1. Has any one advisory service been able to beat the 24 month market benchmark every year over the study period? On Corn? _____
_____. On Soybeans? _____.**
- 2. How much does the ranking of individual advisory services vary from year to year? _____.**
- 3. Brock is an advisory service used by Cargill in some of its Contracts. On average, how has Brock ranked among advisory Services? On corn? _____ On soybeans? _____
Pro Farmer is headquartered in Cedar Falls, Iowa. How has it Ranked among advisory services? On corn? _____ Soybeans? _____
_____.**

Table 1. Pricing Results for 39 Market Advisory Programs, Corn, 1995-2001 Crop Years, Commercial Storage Costs ---\$ per bushel (harv. Equiv.)---Net Advisory Serv. Price									
Market Advisory Program	1995 Price	1996 Price	1997 Price	1998 Price	1999 Price	2000 Price	2001 Price	Avg. Price	Partial Avg. Price
AgResource	3.90	3.12	2.07	2.21	2.49	2.78	1.61	2.60	
AgriVisor (aggressive cash)	3.30	2.83	2.43	2.25	2.12	2.23	1.98	2.45	
AgLine by Doane (cash only)	3.15	2.65	2.33	2.22	2.08	2.18	1.98	2.37	
Top Farmer Intelligence	3.17	2.44	2.15	2.12	2.10	2.38	2.20	2.37	
Ag Review	2.59	2.76	2.57	2.25	2.12	2.03	2.17	2.36	
AgriVisor (aggressive hedge)	3.10	2.58	2.41	2.05	1.99	2.23	1.98	2.33	
AgriVisor (basic cash)	2.72	2.65	2.34	2.16	2.10	2.21	1.96	2.30	
AgriVisor (basic hedge)	2.90	2.63	2.33	2.03	2.07	2.21	1.92	2.30	
Freese-Notis	2.95	2.87	2.22	2.23	1.78	2.07	1.81	2.28	
Brock (hedge)	2.29	2.39	2.64	2.40	2.03	2.29	1.87	2.27	
AgLine by Doane (hedge)	N/A	2.61	2.29	2.32	2.13	2.26	1.96	2.26	
Brock (cash only)	2.74	2.70	2.34	2.10	2.09	1.98	1.88	2.26	
Allendale (futures only)	2.46	2.08	2.55	2.36	2.20	2.17	2.01	2.26	
Pro Farmer (hedge)	3.05	2.67	2.28	2.19	1.69	1.83	1.91	2.23	
Pro Farmer (cash only)	3.16	2.64	2.19	2.09	1.66	1.91	1.94	2.23	
Progressive Ag	N/A	2.53	2.26	1.93	1.93	2.12	2.48	2.21	
Allendale (futures & options)	N/A	2.75	2.38	2.09	2.10	1.91	1.99	2.20	
Stewart-Peterson Advisory Reports	2.90	2.46	2.09	2.02	1.90	1.81	2.04	2.17	
North American Ag	3.22	N/A	N/A	N/A	N/A	N/A	N/A		3.22
Grain Field Report	3.19	N/A	N/A	N/A	N/A	N/A	N/A		3.19
Prosperous Farmer	2.91	N/A	N/A	N/A	N/A	N/A	N/A		2.91
Agri-Edge (hedge)	3.15	3.10	2.35	N/A	N/A	N/A	N/A		2.87
Harris Weather/Elliott Advisory	3.16	2.28	N/A	N/A	N/A	N/A	N/A		2.72
Agri-Edge (cash only)	3.07	2.62	2.15	N/A	N/A	N/A	N/A		2.61
Zwicker Cycle Letter	3.15	2.56	2.40	2.03	N/A	N/A	N/A		2.54
Ag Alert for Ontario	N/A	2.47	N/A	N/A	N/A	N/A	N/A		2.47
Agri-Mark	3.62	2.73	2.13	1.97	2.03	2.06	N/A		2.42
Utterback Marketing Services	N/A	N/A	2.74	2.51	2.08	2.39	2.11		2.37
Stewart-Peterson Strictly Cash	2.92	2.68	2.32	2.28	1.95	1.94	N/A		2.35
Ag Profit by Hjort	3.08	2.49	2.00	2.05	1.89	N/A	N/A		2.30
Risk Management Group (cash only)	N/A	N/A	N/A	N/A	2.10	2.20	2.03		2.11
Cash Grain	N/A	N/A	N/A	N/A	2.06	2.06	N/A		2.06
Risk Management Group (futures & options)	N/A	N/A	N/A	N/A	1.97	2.19	1.99		2.05
Risk Management Group (options only)	N/A	N/A	N/A	N/A	1.98	2.16	2.00		2.05
Co-Mark	N/A	N/A	N/A	N/A	N/A	2.03	2.05		2.04
Grain Field Marketing	N/A	N/A	N/A	N/A	N/A	N/A	2.00		2.00
Northstar Commodity	N/A	N/A	N/A	N/A	N/A	N/A	1.93		1.93
Grain Marketing Plus	N/A	N/A	N/A	N/A	N/A	1.79	2.03		1.91
Ag Financial Strategies	N/A	N/A	N/A	N/A	N/A	N/A	1.80		1.80

<i>Descriptive Statistics:</i>								
<i>Average</i>	3.03	2.63	2.32	2.17	2.02	2.13	1.99	2.33
<i>Median</i>	3.08	2.64	2.33	2.16	2.07	2.16	1.98	2.35
<i>Minimum</i>	2.29	2.08	2.00	1.93	1.66	1.79	1.61	1.91
<i>Maximum</i>	3.90	3.12	2.74	2.51	2.49	2.78	2.48	2.86
<i>Range</i>	1.61	1.04	0.74	0.58	0.83	0.99	0.87	0.95
<i>Standard Deviation</i>	0.33	0.22	0.18	0.15	0.16	0.21	0.15	0.20
<i>Market Benchmarks</i>								
<i>24-month average</i>	2.90	2.65	2.33	2.24	2.05	2.09	2.00	2.32
<i>20-month average</i>	3.07	2.66	2.27	2.12	1.97	2.01	1.94	2.29
<i>Farmer Benchmarks</i>								
<i>USDA average price received</i>	3.06	2.50	2.23	1.97	1.93	1.95	1.95	2.23