

Fueling Ethanol: Implications for Livestock Producers

Presented by

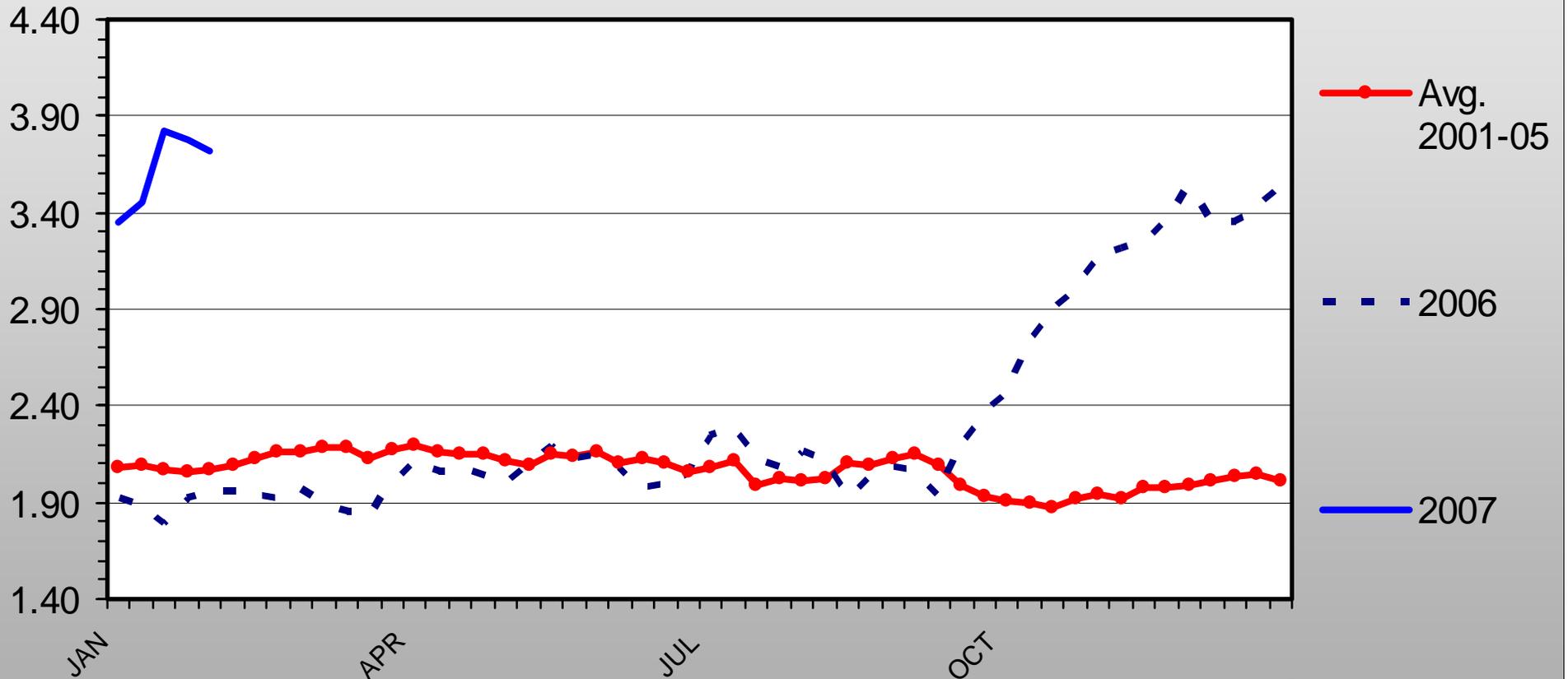
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OMAHA CORN PRICES

Weekly

\$ Per Bu.

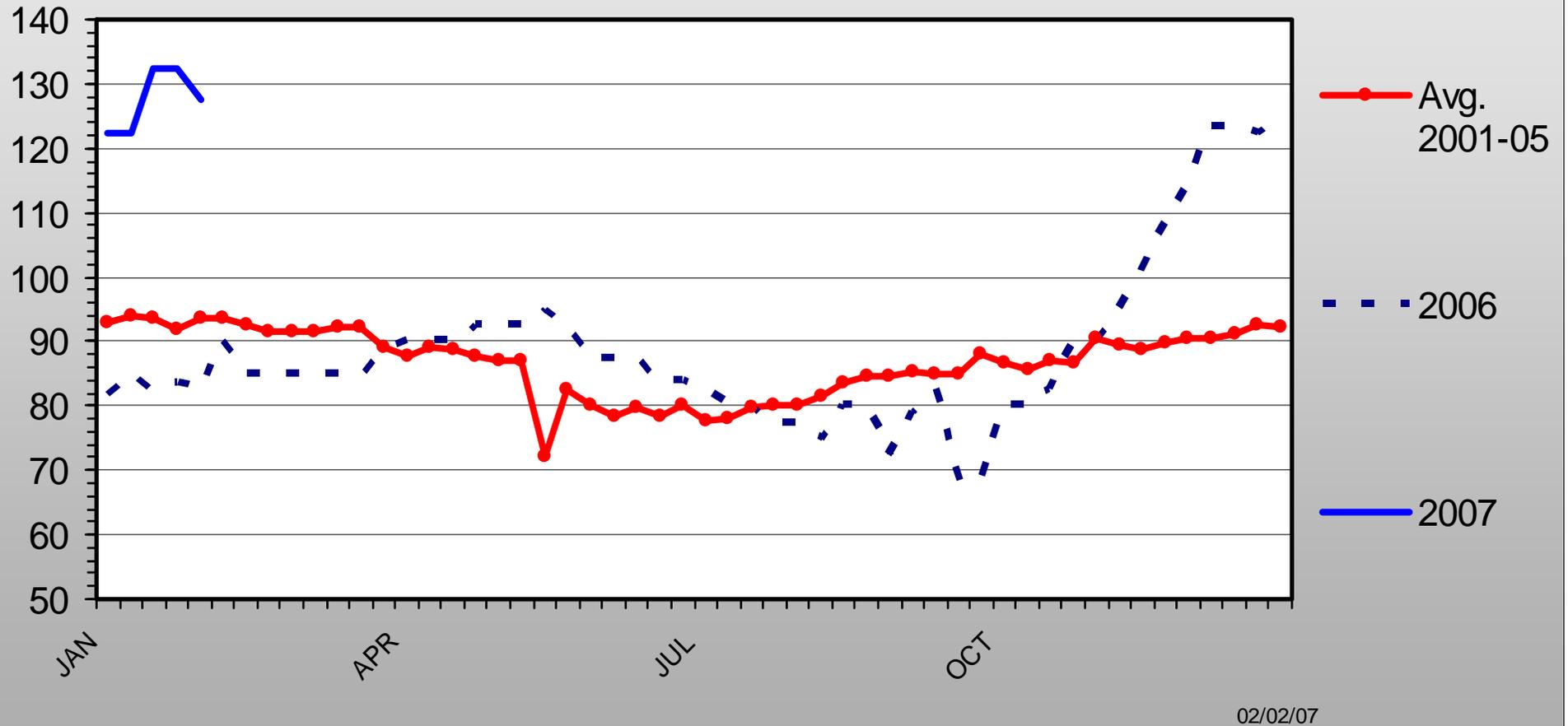


G-P-02
02/02/07

DISTILLER DRIED GRAIN PRICES

Central Illinois, Weekly

\$ Per Ton



Implication for Pork Producers

- **Cost of production impact**

 - **1997-2006**

 - Omaha corn = \$2.09
 - Decature 48% SBM \$188
 - ISM barrows and gilts live weight \$42.18
 - ISU farrow to finish cost estimate \$39.92

 - **12 bu/head, 270# live weight**

 - \$1 higher corn = \$4.44 = \$44-45/cwt
 - \$2 higher corn = \$8.88 = \$48-49/cwt

Impact on Feedlot Cattle Cost and Returns

- **1997-2006**

	Price	BE Cost
– Calf	\$101.96	\$71.69
– Yearling	\$90.35	\$72.00
– Fed	\$74.18	
- **60 Bushels and 1250# pay weight**
 - \$1 higher corn = \$4.80/cwt, \$8.50 on 7cwt
 - \$2 higher corn = \$9.60/cwt, \$17 on 7cwt

DDGS Production and Usage

Potential production	Mil Ton
5.5 Billion Bu. Corn	46.8
Potential use	
COF @ 20%	7.10
Dairy @ 20%	6.13
Hogs @ 15%	<u>6.72</u>
Total	19.95
Excess for export or use	26-27

Key Questions

- **How much distillers grains can I feed and how does it impact feed costs and profitability for cattle and hogs?**

Maximum Inclusion Rates of DDGS in Swine Diets

- **Nursery pigs (> 7 kg)**
 - Up to 25 %
- **Grow-finish pigs**
 - Up to 20% (higher levels may reduce pork fat quality)
- **Gestating sows**
 - Up to 50%
- **Lactating sows**
 - Up to 20%

Assumptions: no mycotoxins, formulate on a digestible amino acid and available phosphorus basis

Performance and Carcass Traits by DDGS in Diet

	DDGS 0	DDGS 10	DDGS 20	DDGS 30
ADG, lbs	1.90 ^a	1.89 ^a	1.82 ^{b c}	1.78 ^{b d}
Feed:Gain	2.78 ^a	2.78 ^a	2.78 ^a	2.94 ^b
Final BW	257.2 ^a	258.7 ^a	250.6 ^b	246.2 ^b
No. of days	103.5	103.5	103.5	103.5
Dressing, %	73.4 ^c	72.8 ^c	72.1 ^d	71.9 ^d
Lean, %	52.6	52.0	52.6	52.5

a,b Means within row with unlike superscripts differ ($P < 0.05$).

c,d Means within row with unlike superscripts differ ($P < 0.10$).

Whitney, Shurson, Johnston, Wulf, and Shanks, JAS, July 2006.

Revenue and Return per Head Over Feed Cost by Treatment

	DDGS 0	DDGS 10	DDGS 20	DDGS 30
Carcass wt	187.4	186.9	178.9	175.8
Revenue, \$60 carcass	\$112.47	\$112.17	\$107.34	\$105.47

Return Over Feed Cost Per Head

\$2/175	81.64	82.91	80.62	79.36
\$3/185	73.47	74.72	72.67	71.07
\$4/195	65.30	66.52	64.72	62.77

60 Pound starting weight, same days on feed, no difference in percent lean. Dressing percent DDGS0=DDGS10 and DDGS20=DDGS30
 DDGS priced at 85% of corn price

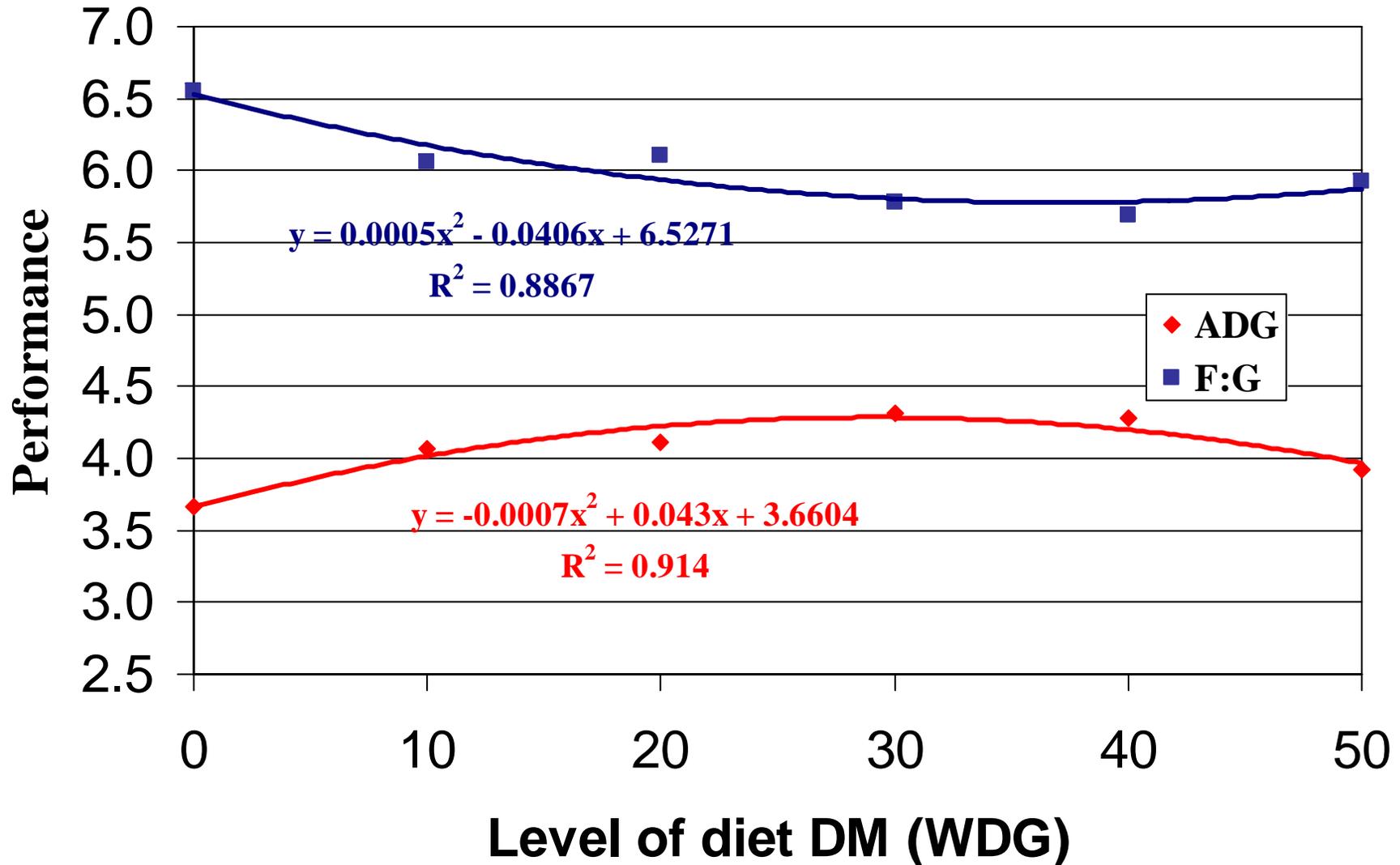
Implication for Pork Producers

- **Higher feed costs**
 - Bid into lower pig prices
 - Lower carcass weights
 - Reduced production
 - Globally competitive
- **DGS potential**
 - Pork fat quality limitation
 - DGS product variability
 - DGS are evolving

Implications for Beef Producers

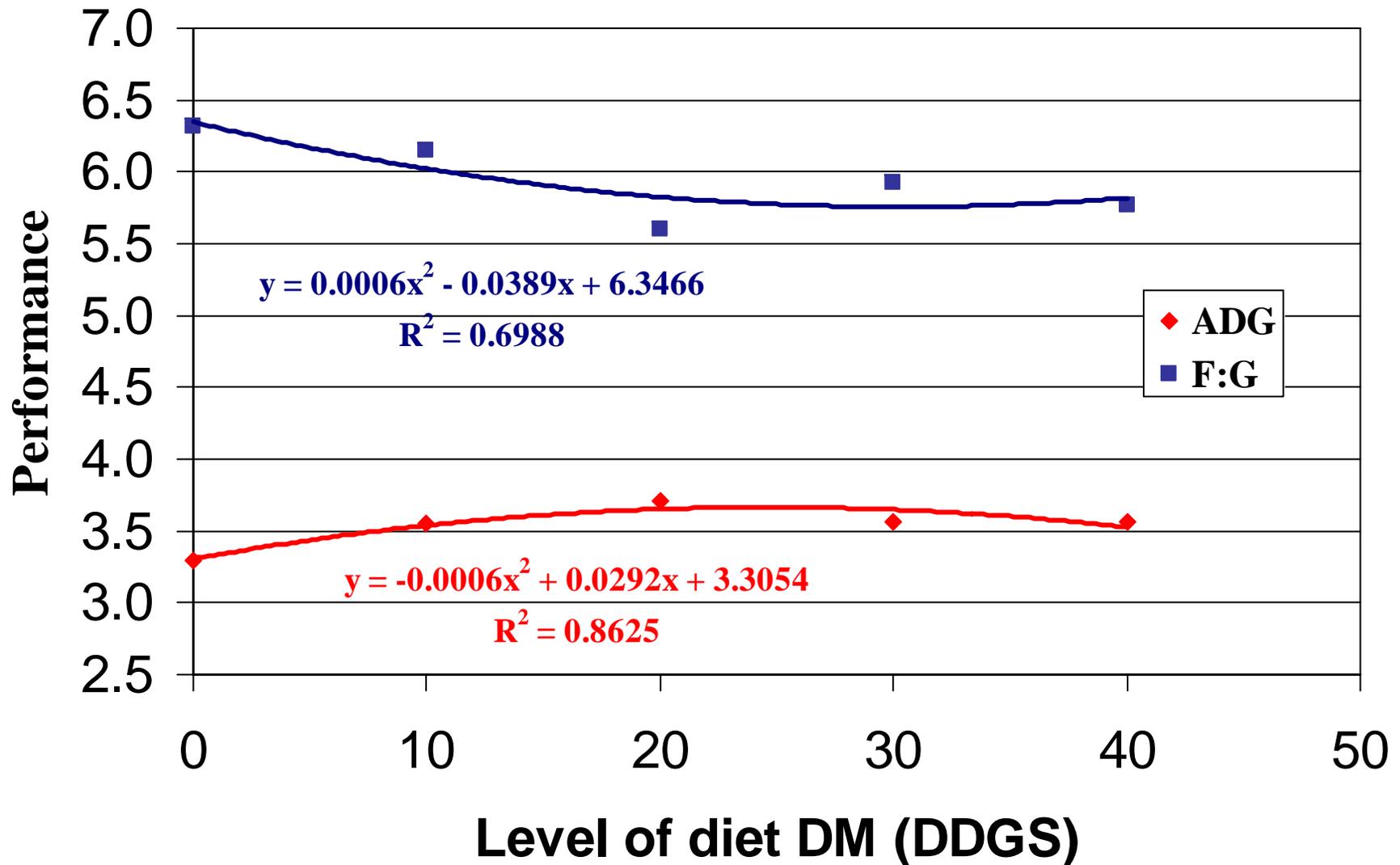
- **DGS is not CGF**
- **Wet is better than dry**
- **Inclusion rates**
 - **20-40% of dry matter is common**
 - **60% WDGS in research**
 - **Lower marbling and quality grade at levels over 40%**
 - **Sulfur levels must be managed**

Feed Efficiency & ADG Response To WDG Inclusion Rate

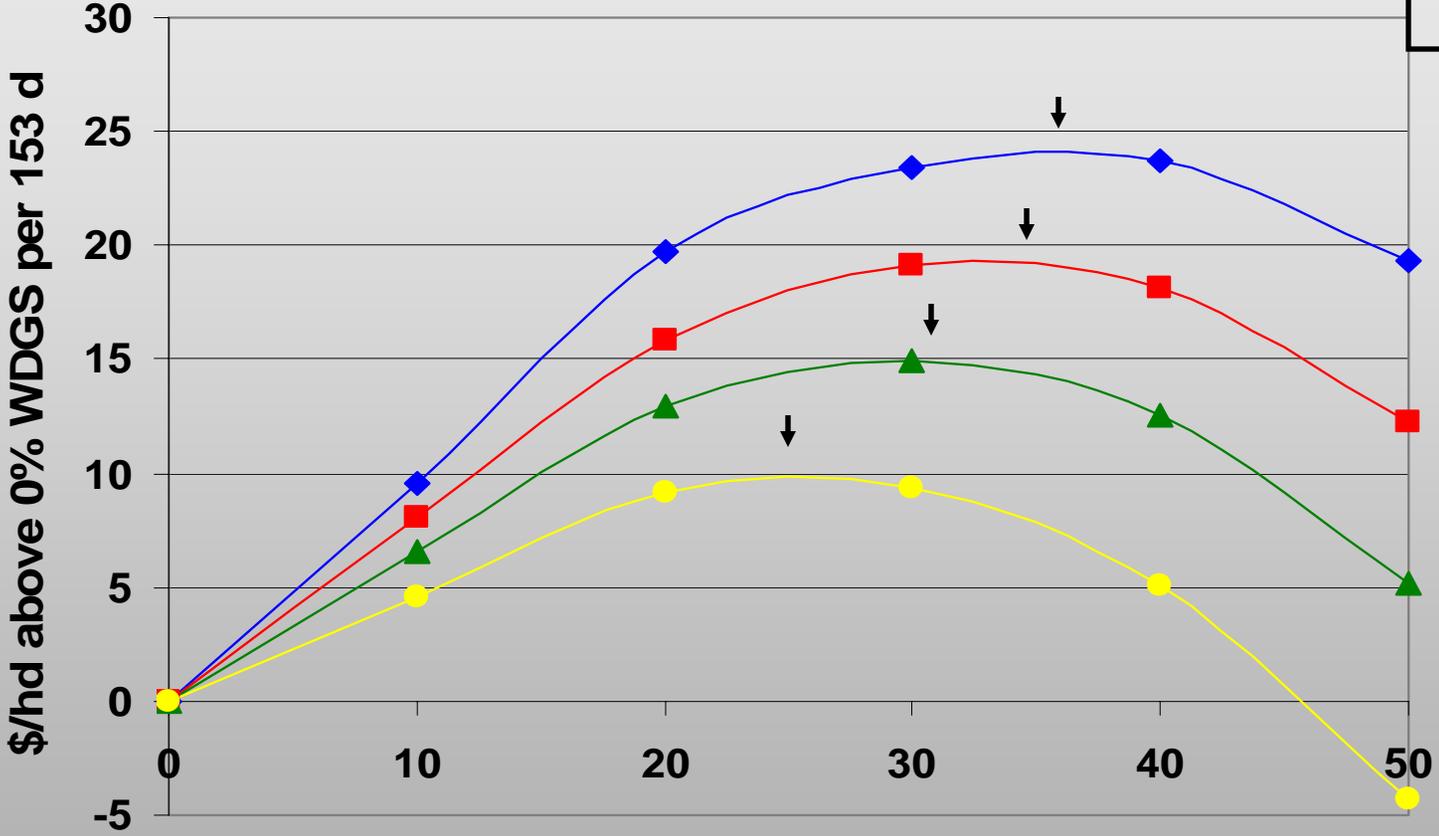


Vander Pol et al., 2006 Nebraska Beef Rep. and 2005 Midwest ASAS

Feed Efficiency & ADG Response To DDG Inclusion Rate



Optimum Use



- ◆ At Plant
- 30 Miles
- ▲ 60 Miles
- 100 Miles

Assume: 95% of corn price, \$0.10/bushel increase corn price, costs covered, 153 days from Vander Pol et. al. (2006 Nebraska Research Report)

Implications for Beef Producers

- **Higher feed cost**
 - Lower calf and yearling prices
 - Higher pasture costs
 - Heavier placement weights
 - Lighter carcasses
 - Fewer Choice cattle
- **DGS potential**
 - Wet is lower cost
 - Can use higher levels
 - Regional availability

Long-Term Implications

- **Economics depends on**
 - Inclusion rate
 - Price of DDGS relative to corn & SBM
 - DDGS is global, WDGS is local
- **Long term at retail counter**
 - Monogastrics: low inclusion DDGS
 - Ruminants: high inclusion WDGS
 - Pork price increase relative to beef

Corn Price and Basis Risk

- **Expect increased volatility**
 - Matching expansion of plants with expansion of acres
 - Short crop concerns
 - Policy thresholds
 - Basis shifts and variation

FEB 8, 2007 CORN BASIS

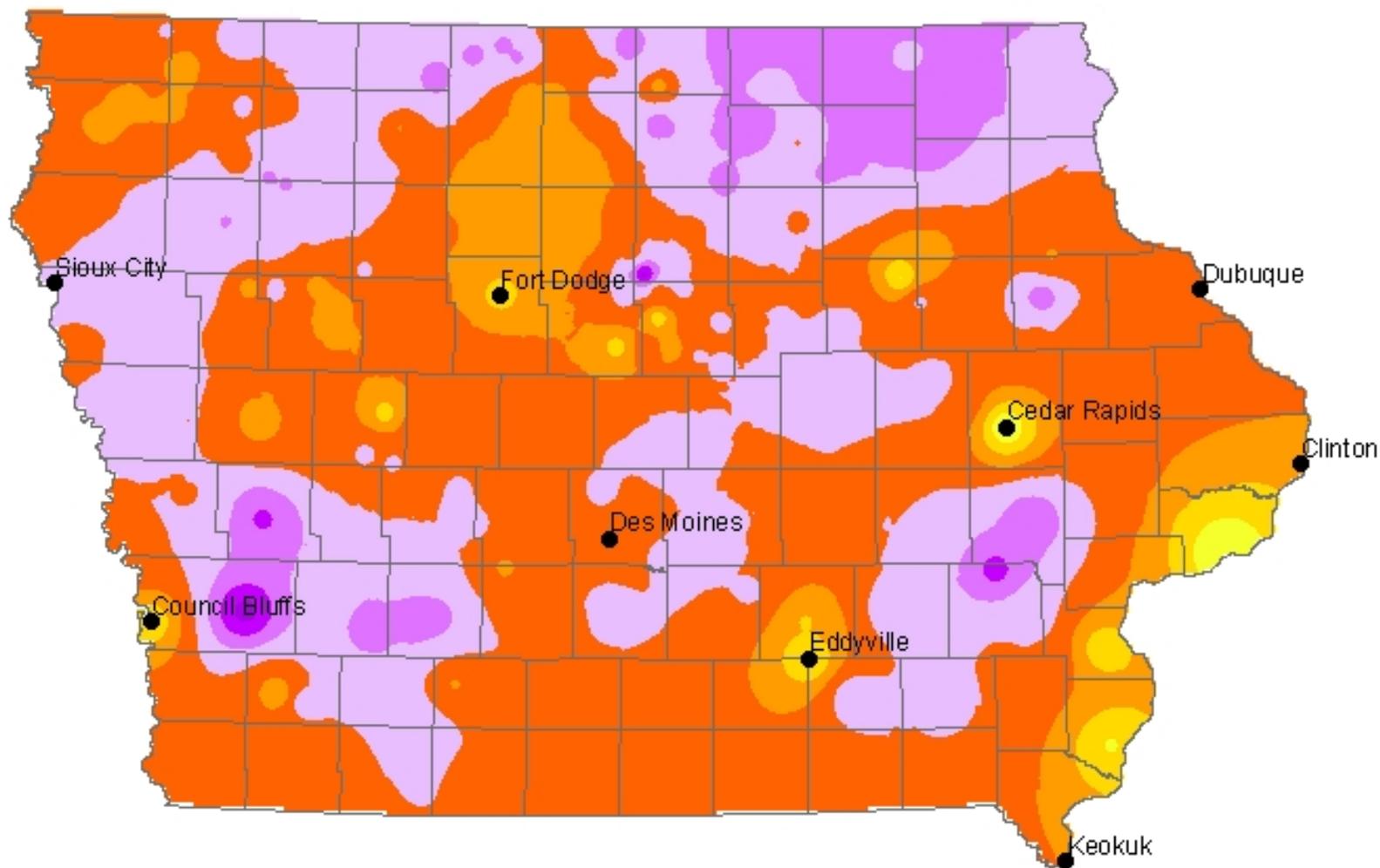
Basis Calculated from CBOT MAR futures price 399.8 cents per bushel

Legend

● Major Markets

<VALUE>

- 15.1 - 20
- 10.1 - 15
- 5.01 - 10
- 0.001 - 5
- 4.99 - 0
- 9.9 - -5
- 14.9 - -10
- 19.9 - -15
- 24.9 - -20
- 29.9 - -25
- 34.9 - -30
- 39.9 - -35
- 44.9 - -40
- 49.9 - -45
- 54.9 - -50
- 60 - -55



Strategic Risk

- **Physical control of grain?**
 - Will it be there in August
 - Building and managing storage
 - Financing inventory
- **Source of DGS**
 - Single supplier or low bid
 - Managing variability

Rural Communities Needs Both Ethanol and Livestock

- **100 million gallon ethanol plant**
 - 37 million bushels of corn
 - 80 people directly employed
- **37 million bu corn** **Direct jobs**

Farrow-finish	800
Or Wean-finish	242
Or Beef feedlot	278

Summary

- **Bioeconomy is changing agriculture!!!!!!**
- **New price level for corn and animal products**
- **New rations for livestock**
- **Exciting destination**
- **Exciting journey**

Thank you!

Any Questions?

www.econ.iastate.edu/faculty/lawrence/