

Iowa Farm Outlook

January 2, 2008

Department of Economics

Ames, Iowa

Amended January 15, 2008

Econ. Info. 1973

Year-end Milk Markets

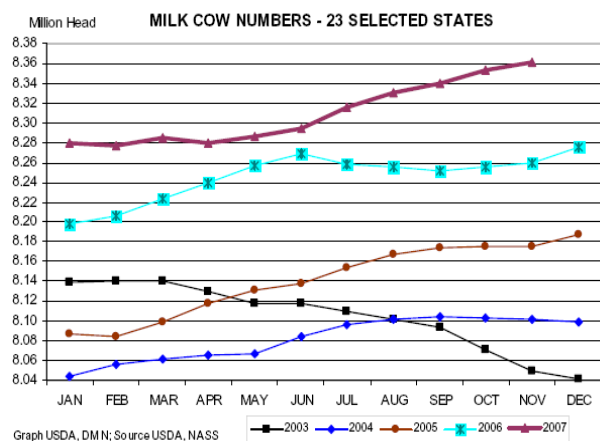
Added January 15, 2008

Milk production continues to make large gains. November milk production for the 23 dairy states rose 3.8% from 1 year ago. Milk cow numbers were up by 101,000 while milk per cow was up by 40 pounds. Iowa milk production rose only 0.9% even though milk cow numbers were 6,000 higher. Iowa milk production was held back because milk per cow was 30 pounds lower, -0.88%.

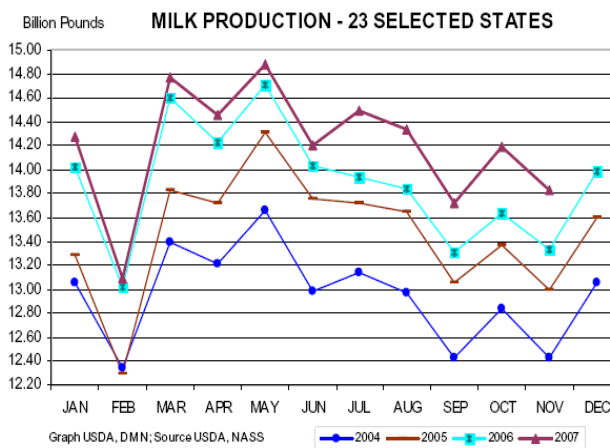
Milk Production: Selected Dairy States, November 2007

| State | | | | | | | million pounds | | % change |
|----------|----------------------------------|----------------------------------|-------------------------|--------------------------------|--------------------------------|----------------------|----------------------------------|----------------------------------|----------|
| | thousands 2006 cow numbers | thousands 2007 cow numbers | % change cow numbers | pounds 2006 milk per cow | pounds 2007 milk per cow | % change milk/cow | 2006 total milk production | 2007 total milk production | |
| Iowa | 209 | 215 | 2.87% | 1620 | 1590 | -1.85% | 339 | 342 | 0.88% |
| MN | 450 | 463 | 2.89% | 1495 | 1490 | -0.33% | 673 | 690 | 2.53% |
| WI | 1245 | 1249 | 0.32% | 1500 | 1545 | 3.00% | 1868 | 1930 | 3.32% |
| IL | 103 | 103 | 0.00% | 1510 | 1470 | -2.65% | 156 | 151 | -3.21% |
| CA | 1782 | 1829 | 2.64% | 1760 | 1810 | 2.84% | 3136 | 3310 | 5.55% |
| CO | 113 | 120 | 6.19% | 1870 | 1885 | 0.80% | 211 | 226 | 7.11% |
| ID | 497 | 522 | 5.03% | 1790 | 1800 | 0.56% | 890 | 940 | 5.62% |
| NM | 360 | 337 | -6.39% | 1650 | 1780 | 7.88% | 594 | 600 | 1.01% |
| PA | 550 | 550 | 0.00% | 1560 | 1580 | 1.28% | 858 | 869 | 1.28% |
| NY | 626 | 626 | 0.00% | 1515 | 1575 | 3.96% | 948 | 986 | 4.01% |
| TX | 342 | 349 | 2.05% | 1675 | 1770 | 5.67% | 573 | 618 | 7.85% |
| 23-State | 8260 | 8361 | 1.22% | 1614 | 1654 | 2.48% | 13332 | 13833 | 3.76% |

Milk cow numbers have been increasing month-to-month since May 07. Since July monthly year-over-year milk production increases have been over 3%. Strong milk prices, even in the face of much higher feed costs, have encouraged dairy producers to keep cows and build herd numbers. Dairy cow slaughter in November was down 27,200 from October and 1600 less than November 06.



Source: Dairy Market News



Source: Dairy Market News

Dairy Product Demand

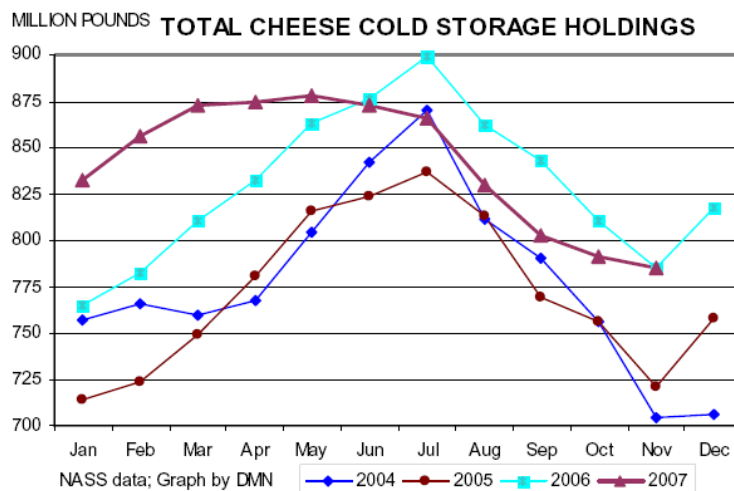
Cheese prices have been on a roller coaster the past six weeks. A new record price for 40-pound block cheddar blocks was set Nov 26 07, \$2.2025 per pound. They declined nearly 10% three days later but rebounded to \$2.1925 on Dec 12. On Dec 31 block cheese traded at \$2.03, up \$0.025 from the previous Friday. Barrel cheese finished at \$1.98. Much of the price movement has been due to bids and offers rather actual sales according to Dairy Market News. The first Dairy Market News of 2008 comments that the cheese market remains firm. But cheese buyers are cautious at current prices.

Butter markets are weak with prices near year ago levels. Most butter makers appear to be at capacity. Butter sales have been slow however and inventory is building. Butter exports do appear good.

Nonfat dry milk (NDM) product sale prices are weakening due both to supply and demand factors. Cheese producers aren't using NDM as much as expected for cheese vat addition. Nor is export demand quite as strong since European prices are beginning to soften. Whey powders are also weakening. Stocks are building with little buying interest. Buyers are indicating little purchasing interest until the market settles. Dry whey producers are beginning to contact users to contract sales. But with dry product prices trending lower, that may be difficult.

Fluid milk consumption was lower for October 07, -1% and -0.2% year-to-date. The drop was in flavored milks while conventional milk was up 1%. Organic milk consumption continues to show strong gains, but is not large enough to affect decreases elsewhere.

Cheese in cold storage on Nov 30 was about equal to one year ago. From Jan-May, storage totals were above year ago, June about equal, and July-Oct below 2006



Source: Dairy Market News

Analysis

Milk prices appear to be headed for lower levels than we are now experiencing. Dr Robert Cropp is estimating an average first quarter 08 Class III price of \$16.30, second quarter \$15, third quarter \$16.35 and fourth quarter \$15.70. That would make an average Class III price at \$15.85, \$2 lower than 2007 but much above the 5-year average. The average Class III futures price for 2008 was \$16.94 on December 28. 2007 Class III prices finished at a \$20.49 average.

Lower prices could result if the apparent weakness of the US continues. Export demand has been a strong and one of the reasons 2007 milk prices raised so much. But reports are circulating that indicate export demand is weakening.

The most recent Milk-Feed ratio was 2.82 due to higher feed costs. A ratio below 3 usually indicates lower future milk production. That could be useful to maintain milk prices as the US weakens and dairy product demand slackens. Some commentators have remarked that Very high milk prices are followed 18 months later by a new low. If that bears out, it would put milk prices at a low point about Oct 2008. We have been having anti-historical corn patterns lately, maybe milk will follow.

Losses Mount and Inventories Grow for Pork Producers

The USDA released the December Hogs and Pigs report on the 27th and estimated the inventory of all hogs to be 65.1 million head, up 4.2 percent from a year earlier. The market hog inventory was up 4.5 percent while the breeding herd increased 1.1 percent indicating that herd expansion is still underway. The USDA reported numbers were higher than the pre-report market hogs estimates of +3.5 percent and equal to the pre-report breeding herd estimate. The report will likely be seen as neutral to bearish by the trade.

The Iowa State University Estimated Returns to Farrow-to-Finish operations reported losses of nearly \$29/head on November sales. Losses on hogs sold in December are expected to nearly as large. Given corn and soybean meal prices predicted for 2008, cost of production for farrow-to-finish operations is projected to be near \$70/cwt carcass weight or in the mid-\$50/cwt live weight. Hog prices are forecast to be below breakeven throughout the year with the exception of possible profits on the summer highs. Thus, 2008 is shaping up to be a negative return year for pork producers.

Table 1 summarizes the December report for the US and Iowa. The US inventory increased in all categories. The heavy weight category is up 6 percent, but is less than the nearly 10 percent increase that has occurred in December slaughter. Slaughter levels are expected to stay approximately 5% higher than the year before through the first half of 2008 as additional Canadian slaughter hogs are added to the US expansion. If the USDA has under estimated the inventory, slaughter will continue to exceed the reported inventory.

Table 1. Summary of USDA December Hogs and Pigs Report for US and Iowa.

| | US Mil. Hd | % Chg 1 year | Iowa Mil. Hd | % Chg 1 year |
|----------------|---------------|-----------------|-----------------|-----------------|
| All Hogs | 65.11 | 4.2 | 18.30 | 5.8 |
| Breeding Herd | 6.16 | 1.1 | 1.10 | 1.9 |
| Market Hogs | 58.95 | 4.5 | 17.10 | 5.4 |
| Under 60 | 21.36 | 4.4 | 5.30 | 7.9 |
| 60 - 119 | 14.46 | 3.8 | 4.70 | 5.1 |
| 120 - 179 | 11.74 | 4.1 | 3.70 | 4.5 |
| 180 & over | 11.39 | 6.1 | 3.40 | 3.0 |
| Pig Crop | | | | |
| Jun - Aug | 27.65 | 4.2 | 4.16 | 1.1 |
| Sep - Nov | 28.00 | 4.2 | 4.58 | 5.4 |
| Sows farrowing | | | | |
| Dec - Feb | 2.98 | 2.4 | 0.47 | 3.3 |
| Mar - May | 3.04 | 0.1 | 0.49 | 2.1 |

The glimmer of light at the end of the tunnel is that March-May farrowing intentions are unchanged from the year before. This is a fourth quarter slaughter indicator and suggests that supplies in Oct-Dec 2008 will be similar to the records set in 2007. Increased pigs per litter will add to the supply. Canada has been reducing its breeding herd and may result in fewer feeder pigs and slaughter hogs from the north by next fall. However, historically producers have suffered a year of losses before reducing the breeding herd. If March-May farrowings are unchanged from the year before it would be one of the quickest turn around from expansion to contraction in recent history.

Iowa's inventory is also increasing. The 18.3 million hogs in nearly 6% larger than the December 2006 inventory and the breeding herd and market hog inventories both increased. The fall pig crop and inventory under 60 pounds show large increases. Iowa accounted for 29 percent of the US market hog inventory.

The USDA did make revisions to its September report. In that report it estimated fourth quarter slaughter to increase approximately 3 percent from the year before. Through the first 12 weeks of the quarter, hog slaughter was 8.3 percent higher than the same period the year before. Eleven of the 12 weeks had slaughter of 2.3 million head or larger (Thanksgiving week had over 2.0 million), each larger than the largest week in 1998 (2.265 million). The week before Christmas slaughter was estimated to be 2.449 million head. This increased 4th quarter hog slaughter came from several categories: barrow and gilt slaughter was up 8.1

percent and sow slaughter increased 4.8 percent. Included in these totals are nearly a 33 percent (188,000 head) increase in market hogs and 8.2 percent (7200 head) more sows from Canada for slaughter compared to the fourth quarter in 2006.

Approximately 2.7 million market hogs for slaughter and 6.25 million feeder and weaned pigs for finishing were shipped from Canada to the US in 2007. These figures are up 11 and 24 percent, respectively from 2006. However, unlike the US breeding herd that is expanding, the Canadian breeding herd is contracting, down 1.8 percent in October compared to the year before. This Canadian contraction is expected to continue given the record high prices for feed-grade wheat and barley in addition to increases in corn prices that the US has experienced. The weakness of the US dollar relative to the Canadian dollar is also making Canadian exports of pigs, hogs or pork, more expensive in the US than it has been in recent years. However, given the relatively cheaper cost of gain and relatively high market hog price, pigs are expected to continue moving to the US for finishing.

The bulk of the increased fourth quarter slaughter came from more US hogs than expected thanks in part to the vaccine for circovirus that increased the number of hogs reaching slaughter weight compared to the year before. Three questions remain regarding the circovirus affect: 1) Have USDA revisions fully captured the impact on slaughter? 2) Did producers over-breed to compensate for the high death loss and if so, have they returned to normal throughput? And 3) will the vaccine continue to work successfully and be widely used? The forecast here assume #1 and 3# are true and #2 is false. Carcass weights are another source of supply, and have averaged 1.67 pounds, about 1 % heavier than a year ago. However, carcass weights are forecast to be steady or lower in 2008 due to higher feed costs and lower hog prices.

Demand Factors...

Pork exports are on track to set another record in 2007 and now account for over 15 percent of US production on a tonnage basis. The lower wholesale pork prices and weaker US dollar has increased the pace of exports in the fourth quarter. Domestic demand is difficult to measure, but appears to be relatively strong. Fourth quarter pork production increased 9 percent over 2006 levels but wholesale pork prices decreased only a little more than 10 percent. A smaller price adjustment than might typically be expected. At the same time pork in cold storage in November increased only 1.6 percent suggesting that the product is either being exported or eaten at current prices. The prices forecast here assume that pork exports increase 10 percent in 2008 over 2007.

The primary drivers of short run domestic demand are prices of competing meats and consumer income. Economic indicators suggest that the US economy has slowed from a year ago and is expected to have a negative impact on consumer spending. Supplies of beef and poultry are higher than a year earlier and should pressure pork at the retail counter. Fourth quarter beef and poultry production is up 3.5 percent and 5.4 percent, respectively. While retail prices are not readily available, wholesale prices for beef and chicken for the fourth quarter are actually higher than the year before, up 1.1 percent of beef and 7.9 percent for broilers, in spite of larger supplies. This price strength in competing meats has helped pork prices.

Looking ahead, beef supplies are expected to decline seasonally through the winter but be at or below 2007 levels through much of the first half of 2008. Egg sets and chicks placed in the fourth quarter are up 3.5 and 4 percent, respectively from a year ago indicating that poultry supplies will continue to increase faster than population growth.

Forecast...

Pork production in 2008 is forecast to increase over 2007 record levels. The continued expansion of the US breeding herd is expected to take several months to slow and switch to a contraction and then approximately two more quarters before slaughter and supply will decrease. Table 2 provides a quarterly forecast of production and price based on the December Hogs and Pigs report. It also lists the basis adjusted futures price forecast using the closing prices immediately prior to the release of the report.

| Table 2. Forecast of Pork Production and Hog Carcass Prices | | | |
|--|------------------------|-------------------------|---------------------------------|
| | % Change Production | ISU Forecast Carcass | Basis Adjusted Futures 12/27 |
| Q1 | +5% | 55-58 | 59.76 |

| | | | |
|------|-----|-------|-------|
| Q2 | +5% | 65-68 | 67.70 |
| Q3 | +4% | 64-67 | 70.87 |
| Q4 | +2% | 55-58 | 66.66 |
| 2008 | +4% | 60-63 | 66.33 |

Given the expected cost of production for Iowa farrow-to-finish operations, 2008 will be a year of negative returns for most producers. Table 3 estimates of cost of production per one hundred pounds of carcass weight based on the ISU Estimated Returns Series:

http://www.econ.iastate.edu/faculty/lawrence/Lawrence_website/livestockreturns.htm

The current conditions have approximately \$73/head costs in addition to corn and SBM which are variables in the table. Live weight is assumed to be 270 pounds with a 75% carcass yield. With corn in the \$4/bushel range and soybean meal near \$300/ton, breakeven total cost of production is estimated to be \$70/cwt carcass or approximately \$54/cwt live weight.

Table 3. Estimated Total Cost of Production per Cwt Carcass

| SBM/Corn | 3.00 | 3.25 | 3.50 | 3.75 | 4.00 | 4.25 | 4.50 | 4.75 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|
| 250 | 62.64 | 64.12 | 65.59 | 67.06 | 68.53 | 70.01 | 71.48 | 72.95 |
| 275 | 63.53 | 65.00 | 66.47 | 67.95 | 69.42 | 70.89 | 72.36 | 73.84 |
| 300 | 64.41 | 65.89 | 67.36 | 68.83 | 70.30 | 71.78 | 73.25 | 74.72 |
| 325 | 65.30 | 66.77 | 68.24 | 69.72 | 71.19 | 72.66 | 74.13 | 75.61 |
| 350 | 66.18 | 67.65 | 69.13 | 70.60 | 72.07 | 73.55 | 75.02 | 76.49 |
| 375 | 67.07 | 68.54 | 70.01 | 71.48 | 72.96 | 74.43 | 75.90 | 77.38 |
| 400 | 67.95 | 69.42 | 70.90 | 72.37 | 73.84 | 75.31 | 76.79 | 78.26 |
| 425 | 68.84 | 70.31 | 71.78 | 73.25 | 74.73 | 76.20 | 77.67 | 79.15 |
| 450 | 69.72 | 71.19 | 72.67 | 74.14 | 75.61 | 77.08 | 78.56 | 80.03 |
| 475 | 70.60 | 72.08 | 73.55 | 75.02 | 76.50 | 77.97 | 79.44 | 80.91 |
| 500 | 71.49 | 72.96 | 74.43 | 75.91 | 77.38 | 78.85 | 80.33 | 81.80 |

John Lawrence

Grain Marketing Tools and Analysis

Under Dr. Robert Wisner's tenure with the Iowa Farm Outlook newsletter, the grain section often focused on factors shaping corn and soybean prices and marketing tools and strategies to manage price risk. Now that he has retired and I do not have those skills, I want to introduce you to some of the other tools and talent that is available to help make marketing decisions and manage price risk. This is not an exhaustive list, but rather an introduction to some excellent resources.

Long-run price projections...

While not of much use for short-term marketing decisions, the "FAPRI Baseline" is an important long-range planning tool. Established in 1984 by a grant from the U.S. Congress, the Food and Agricultural Policy Research Institute (FAPRI) is a unique, dual-university research program. With research centers at the Center for Agricultural and Rural Development (CARD) at Iowa State University and the [Center for National Food and Agricultural Policy \(CNFAP\) at the University of Missouri-Columbia](#), FAPRI uses comprehensive data and computer [modeling](#) systems to analyze the complex economic interrelationships of the food and agriculture industry.

This model is used to analyze the impact of policy changes for agricultural policy in the US, the EU, and elsewhere, trade agreements, and other national and international shifts to the markets. FAPRI-Iowa State University maintains the international modeling structure for grains, oilseeds, livestock, dairy, and sugar and U.S. crop insurance model. [FAPRI-Missouri](#) maintains the U.S. modeling structure for grains, oilseeds, livestock, and dairy, along with models for the international cotton sector and the European Union.

FAPRI will be releasing its new Baseline estimates in early 2008 and they can be found at <http://www.fapri.iastate.edu/>. These estimates will have annual forecasts of production and prices for 2008-

2017. While no one expects a perfect forecast ten years into the future, the strength of the FAPRI Baseline is that it is internally consistent. It reflects US and international supply and prices that are in equilibrium given a particular policy scenario. For example, how will corn acreage and production change in competing countries given the recently signed Energy Bill in the US? How will acreage and prices for corn, soybeans, and other crops or inventories of livestock and poultry adjust in the US with increased biofuel production? What for the new FAPRI Baseline.

Basis patterns...

Understanding basis is fundamental to good marketing decisions. Historically, basis has been less risky than futures prices and thus hedging reduced price risk by trading futures price risk for basis risk. Grain basis patterns were also very predictable. In the case of Iowa, corn and soybean basis was narrower along the Mississippi River and widened to the west away from the river. The historic patterns of corn and soybean basis by region within Iowa are found at:

- Corn: <http://www.extension.iastate.edu/agdm/crops/pdf/a2-41.pdf>
- Soybeans: <http://www.extension.iastate.edu/agdm/crops/pdf/a2-42.pdf>

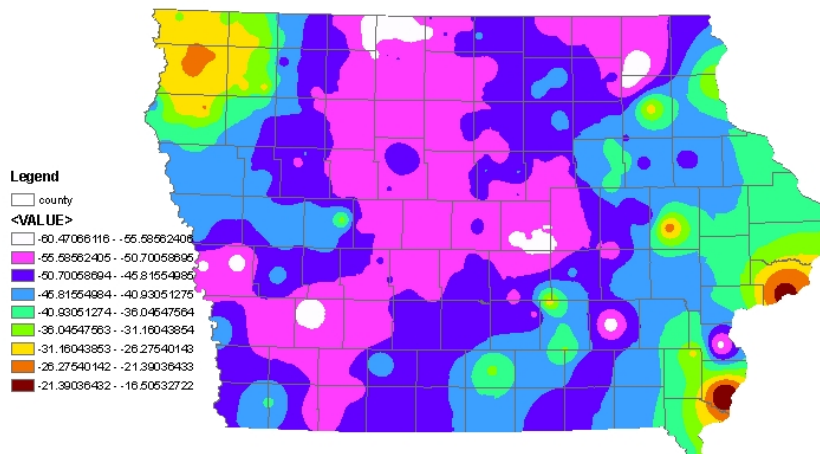
However, the growth of ethanol production has changed the predictable basis patterns at least for corn. The Center of Agriculture and Rural Development at Iowa State University has developed basis maps for Iowa and will soon have them for the Midwest. These maps are updated daily and show the basis for corn and soybeans.

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

As an example, here are two dates: one during harvest (October 16) and one after harvest (December 20). The harvest basis map shows a similar basis in the northwest and southeast part of the state. In December, probably after barge traffic has stopped for the season, western Iowa and particularly northwest Iowa has a narrower basis than eastern Iowa. Not the typical historical pattern.

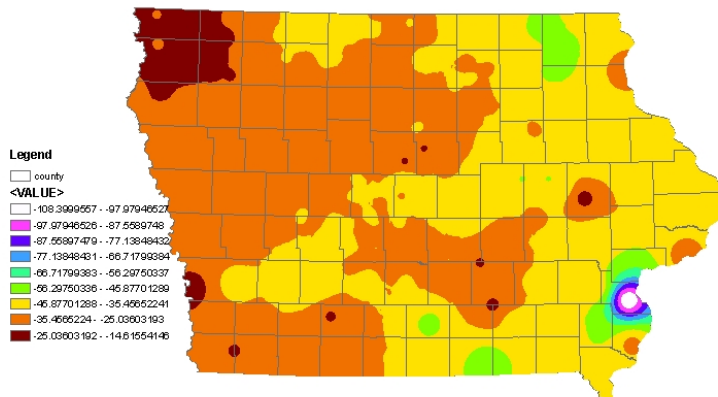
OCT 16, 2007 CORN BASIS

Basis Calculated from CBOT DEC futures price 360.5 cents per bushel



DEC 20, 2007 CORN BASIS

Basis Calculated from CBOT MAR futures price 437.5 cents per bushel



Other resources...

Iowa State University will continue its commitment to grain market analysis and grain marketing research and education. However, there are other universities and USDA agencies that also are good resources for grain marketing information. A few include:

- University of Illinois Farm.Doc <http://www.farmdoc.uiuc.edu/>. In addition to market analysis and outlook, this site has an excellent collection of software tools for managing the farm business call FAST TOOLS. There is researched based information on market advisory services (AgMAS), farm policy, crop insurance, and other marketing and management publications. The analysis reflects Illinois and eastern cornbelt issues.
- Kansas State University AgManager.Info <http://www.agmanager.info/crops/>. This site reflects more wheat and irrigated crop issues and provides another perspective on corn and soybean balance sheets and outlook.
- Michigan State University <http://www.msu.edu/~hilker/>. Dr. Hilker's analysis includes probabilistic price forecasts for major US crops and livestock. The Michigan State forecasting model has been quite good and rivals Dr. Wisner for accuracy in the American Agricultural Economics Association forecasting contest.
- USDA Economic Research Service Feed, Oil Crop, and Wheat Outlook.
<http://usda.mannlib.cornell.edu/usda/current/FDS/FDS-12-13-2007.pdf>
<http://usda.mannlib.cornell.edu/usda/current/OCS/OCS-12-12-2007.pdf>
<http://usda.mannlib.cornell.edu/usda/current/WHF/WHF-12-13-2007.pdf>
These publications have analysis and historical data for the feed grains, oilseeds and wheat. They are an excellent resource for a domestic and global analysis of factors shaping these markets.
- USDA World Outlook Board World Agricultural Supply and Demand Estimates
<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1194>. This report is released monthly and provides USDA most recent balance sheets of supply and demand and the resulting price forecast for crops and livestock.
- Chicago Board of Trade Commentaries <http://www.cbot.com/cbot/pub/page/0,3181,1033,00.html> This site offers a pre-opening, mid-session, and recap of specific commodity markets from the perspective of futures traders. Unlike the other sites identified that are data-rich and based on fundamental analysis, this site has more of the market emotion and short-term drivers.

There are many other USDA and university resources available and I apologize if I left someone or something off the list. I encourage you to check out these sites to become a better informed grain marketer.

John Lawrence

Dr. John D. Lawrence, Professor
Extension Livestock Economist
Iowa Beef Center, Director
468 Heady Hall
Phone: (515) 294-6290
Fax: (515) 294-1700
jdlaw@iastate.edu
www.econ.iastate.edu/faculty/lawrence

Shane Ellis
Extension Livestock Economist
475 Heady Hall
Phone: (515) 294-8030
Fax: (515) 294-1700
shanee@iastate.edu
www.econ.iastate.edu/prosci/ellis

Cindy Pease
Secretary
460 Heady Hall
Phone: (515)294-7318

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