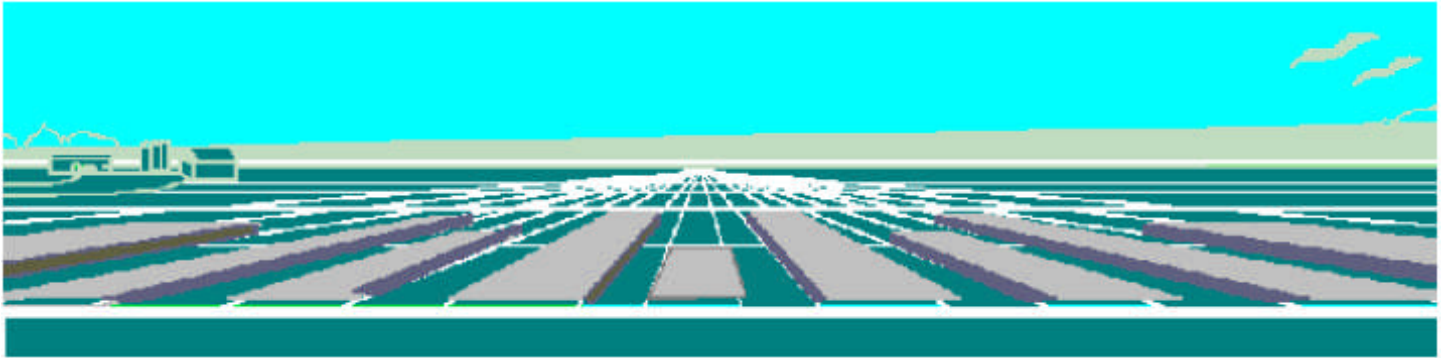


# Iowa Farm Outlook



February 2, 2007

Ames, Iowa

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## Grain Update: Markets Respond to Crude Oil Price, Corn Acreage Needs

Since the release of USDA's January 12 reports, near-by corn futures have traded in about a 24 cent range per bushel along with a 25 cent range for soybeans. The need for sharply expanded corn acreage and cold weather that tends to increase feed demand provided slight upside potential, as did President Bush's State of the Union speech that encouraged increased ethanol production. Price strength was tempered by the recent sharp decline in ethanol prices and private planting intentions surveys showing the potential for sharply increased corn plantings. Corn and bean prices from now through March may move in a slightly wider trading range as grain traders try to determine whether enough corn will be planted with current prices, and whether old-crop feed and export demand will be rationed by current high prices. It would not be surprising to see July 2007 corn futures test the \$4.50 per bushel level at least briefly. Any widespread spring weather concerns could push prices well above this level.

USDA's March 30 planting intentions and grain stocks reports will be extremely important indicators of price direction from early April into at least early summer. The USDA planting intentions survey will be much more extensive and scientific than that of the two recent private surveys. One private survey showed a prospective 7.6 million acre (9.7%) increase from last year in 2007 U.S. corn plantings. The other showed a potential 10.1 million acre (12.9%) increase in corn acres and a 6 million acre (7.9%) decrease in soybean plantings. With less corn harvested for silage, this latter acreage and good weather could increase corn harvested acreage by 15%. The latter survey was based on responses from about 484 farmer respondents. Prospects for sharply reduced U.S. soybean plantings should support soybean prices for the next few months.

### Corn Exports

Cumulative U.S. corn export sales from last September 1 through January 25 were 27% above a year earlier. The sales total includes corn shipped out so far this season as well as sales not yet shipped out. Export inspections, which reflect export shipments, were up 18%. ***For the marketing year, USDA projects U.S. corn exports to be up only 4.8% from last season. To reach that level, export shipments the rest of the season will need to be down about 2.3% from a year earlier. To reach the official export projection, sales of corn to be shipped out by the end of August will need to be about 18% lower than during the same period last season.*** Some decrease in exports is quite possible from late spring through summer as new-crop Southern Hemisphere corn and Northern Hemisphere feed wheat supplies become available. However, it remains to be seen whether exports will drop enough to meet USDA projections. Expectations of further tightening of U.S. and global grain supplies next season would motivate producers of competing grains to store more than the usual amount of grain into the next season.

This year's strong increase in U.S. corn exports reflects hot and dry weather during the corn pollination period in Argentina and South Africa last winter, and major weather problems in several key wheat producing regions including the U.S., Australia, India and other areas. Early indications are that crops may be

significantly larger in most of these regions this year, due to better yields and modestly increased acreage. The increased foreign production could moderately reduce U.S. corn exports in the 2007-08 marketing year and may slow U.S. export sales some during the summer.

### **Soybean Exports**

Cumulative U.S. soybean export sales through January 25 were up 29% from a year earlier. Export inspections to date were up 25%. USDA projections for the marketing year call for exports to be up 18% from last season. *To reach that level, export shipments the rest of the season will need to be up about 11% from a year earlier. To reach the official export projection, sales of soybeans to be shipped out by the end of August will need to be about 6% lower than during the same period last season.* Reports on South American crop conditions through the end of January continue to show very good prospects. However, weather and the extent of Asian Soybean Rust in Brazil during the next 4 or 5 weeks will determine the final crop size.

### **President Bush's Speech and Energy Policy**

In his State of the Union speech, the President set a goal of producing 35 billion gallons of ethanol annually in 10 years, and also called for a doubling of the amount of oil in the U.S. strategic petroleum reserve. Increasing the size of the petroleum reserve is to begin soon. Reaching the ethanol goal almost certainly will require expanding the ethanol feedstock base beyond just corn to conversion of cellulose to ethanol. Production of corn-based ethanol appears likely to reach a peak of around 15 to 16 billion gallons annually, with the expansion in the industry slowing as a result of increased corn prices and lower ethanol prices. Current indications are that the industry may reach that level in 3.5 to 4 years, barring a further decline in crude oil and ethanol prices. The U.S. uses about 140 billion gallons of gasoline annually, so production at that level would allow for slightly more than a 10% blend of ethanol with all of the nation's gasoline.

As more ethanol is moved into the E-85 market, lower ethanol prices will be needed to compensate for the substantially lower fuel mileage of that type of fuel and to encourage consumers to buy the product. A recent EPA decision allows blends of E-20 or E-30 to be used in flex-fuel vehicles. These blends might somewhat temper the need for sharply lower ethanol prices to expand the market. However, another part of the market picture is the very limited number of flex-fuel vehicles that are currently in service. The auto industry is committed to increasing production of such vehicles, but it will take time to expand the percentage of the automobile fleet that is flex-fuel powered.

### **Ethanol from Cellulose**

Conversion of cellulose to ethanol is technically possible. I have just returned from visiting a pilot plant in Sweden that converts wood chips to ethanol. Another pilot plant producing ethanol from cellulose is in Ottawa, Canada. The company owning that plant, SunOpta, indicates it has recently finished building a plant in China that processes corn stalks into ethanol. The company indicates it plans to produce about 330 million gallons of ethanol from cellulose within five years. Pilot cellulose plants also are being planned for Iowa and two locations in the southern U.S. Whether these plants will be economically viable without further research or policy incentives remains to be seen. Biomass is bulky and more costly to handle than corn. Additional research is needed on ways to harvest, transport, and store it at reasonable cost. Technology and costs of moving and shredding biomass in processing plants also are areas that need additional research, along with the question of how much crop residue should be left on fields for environmental reasons. Potential sources of biomass include corn stalks, straw, sugar cane stalks, switch grass and other grasses, livestock and urban wastes, cardboard and discarded paper, forest product wastes, and lawn clippings.

The shift to biofuels is a global movement. Other countries and regions moving strongly into biodiesel and/or ethanol include Canada, Brazil, China, Thailand, Malaysia, and the EU. A number of other countries also are looking into biofuels. Thus, corn and soybean prices will be influenced not just by U.S. demand for use in biofuels, but by global demand.

### **Ethanol Price Trends**

The spot or cash market for ethanol can be quite volatile. Early last summer as the petroleum industry halted production of MTBE, Iowa rack or wholesale ethanol prices rose to almost \$4 per gallon and had a very

large premium over wholesale gasoline prices. MTBE was an important clean air additive used in U.S. urban areas. The West Coast had shifted to ethanol as an alternative additive about 3 years ago, but some East Coast areas had not yet made the shift. Halting of MTBE production opened a large premium market for ethanol that now has been partially filled. Iowa spot ethanol prices reached a bottom in late September moderately below \$2 per gallon, but then rose to nearly \$2.60 per gallon just before Christmas. At this writing, the reported state average rack (wholesale price) is \$1.92 per gallon, a decline of about \$0.64 from late December.

***Each \$0.10 change in the price of ethanol changes the maximum price a new plant can pay for corn by about \$0.28 per bushel while still covering all costs.*** That calculation holds true if all other costs and the value of distillers grain and solubles (DGS) remain unchanged. This sharp drop in ethanol prices, if it were to be sustained for several months, would likely discourage some potential plants from breaking ground at current corn prices. Spot prices for corn and ethanol at this writing suggest that new plants just coming on line would have returns at about the break-even level unless they had contracted corn and ethanol at earlier prices.

The recent decline in ethanol prices came as crude oil prices dropped about 25% from early December to mid-January. Following the President's speech and the recent cold weather (which increases the demand for heating oil), crude oil prices are up about 16% from the recent low point. The President's move to double the amount of U.S. crude oil in the strategic reserve and expectations that OPEC at its next meeting may focus on further cuts in production also helped to strengthen oil prices.

Wholesale gasoline prices dropped sharply into mid-January, declining about 20% or 35 cents per gallon from just before Christmas. That was in response to rising U.S. gasoline inventories. In the last two weeks, wholesale gasoline prices have strengthened 16 cents per gallon, but at this writing ethanol prices are lagging behind gasoline.

### **Corn Acreage Needed for 2007**

***For the second consecutive year, the U.S. corn crop has fallen below market demand – despite the second-highest U.S. corn yields on record in both years.*** The 2005 crop fell about 150 million bushels below demand, and the production-use gap was filled by reducing old-crop carryover stocks. The 2006 crop was about 1.3 to 1.4 billion bushels below ***potential*** market demand. Most of this season's production-use gap can be filled by reducing carryover stocks, although some rationing of feed and export demand through higher corn prices appears to be needed.

***Next season (starting September 1), production will need to be large enough to fill the current production-use gap and supply corn for the expanded ethanol industry. We expect August 31 carryover stocks to be near the minimum level needed by the grain trade before new-crop corn is widely available. USDA's Chief Economist indicated recently that corn processing for ethanol may increase by a billion bushels (47%) next season.*** Even that huge increase may be conservative, based on over 2.1 billion bushels of processing capacity currently under construction. Allowing for a 350 million bushel reduction in domestic corn feeding and exports, a 1.2 billion bushel growth in demand for corn for ethanol, approximately a 2.25 billion bushel potential production-use gap would need to be filled through increased corn production next season. ***Several highly-respected industry economists who track new plant construction closely are using 0.2 to 0.5 billion bushels more corn processing for ethanol in 2007-08 than the numbers used here.***

***With a U.S. average yield of 158 bushels per acre (up from 149.1 last year), a 14% increase in 2007 U.S. corn acreage for grain would be needed to meet these projections.*** Early indications are that with this acreage, a yield as low as last year's 149.1 bushels per acre might require about a 6% or 700 million bushel further rationing of demand beyond the 350 million bushels we have built into the projections.

The record U.S. yield was 160.4 bushels per acre in 2004 with very good growing conditions across most of the Corn Belt. With corn plantings up 13% or 10.2 million acres from 2006 and harvested acreage up 14 to 15%, we would expect soybean plantings to be down approximately 6.5 to 7.5 million acres. This corn acreage would be a larger increase than we currently show in the longer-term balance sheets on our web site, but would be very close to our earlier soybean acreage projections. Higher soybean prices would encourage more double-cropping of soybeans after the wheat harvest if soil moisture is adequate. A small amount of the extra corn acres is likely to come from hay, pasture, and cotton. Our longer-term balance sheets are shown on our web site (<http://www.econ.iastate.edu/faculty/wisner/>), just below the usual balance sheet projections.

Robert Wisner

## Dairy Herd & Milk Production Grow

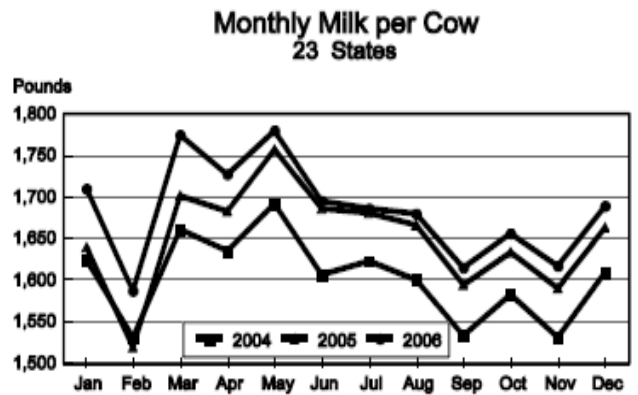
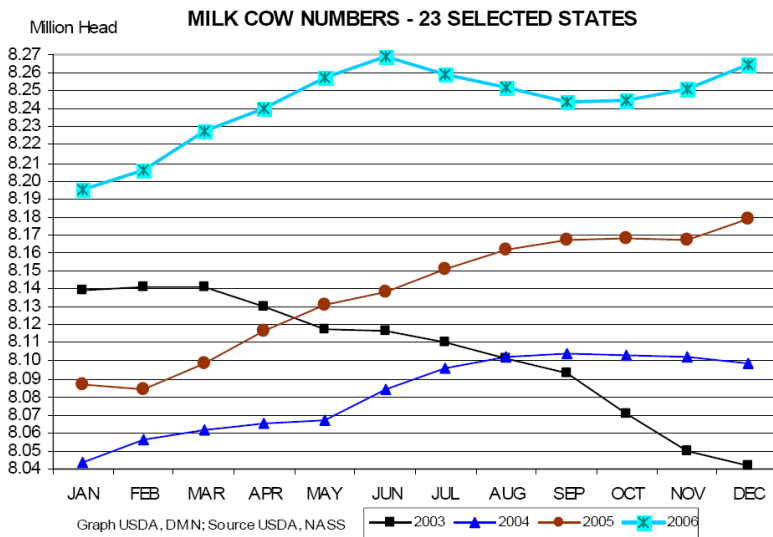
December 06 milk production rose 2.7% in the 23 reporting states. The Nov 06 report was revised up by 13 million pounds for an additional 0.1%. Production per cow averaged 1689 pounds which was a 26 pound increase from Dec 05. The dairy herd was 86,000 more than one year ago and 14,000 more than Nov 2006.

Fourth quarter US milk production was up only 2.2%. Average US herd size was 9.12 million cows, 56,000 more than the same period last year.

Production per cow in Iowa was 1725 pounds, the same as one year ago. Milk cow numbers rose by 5,000 compared to one year ago and the previous month. More milk cows added 9 million pounds of milk to Iowa's production. Iowa cheese production during Nov 06 was 11.675 million pounds, down 13.4% from Nov 05 and -3.8% from October 06.

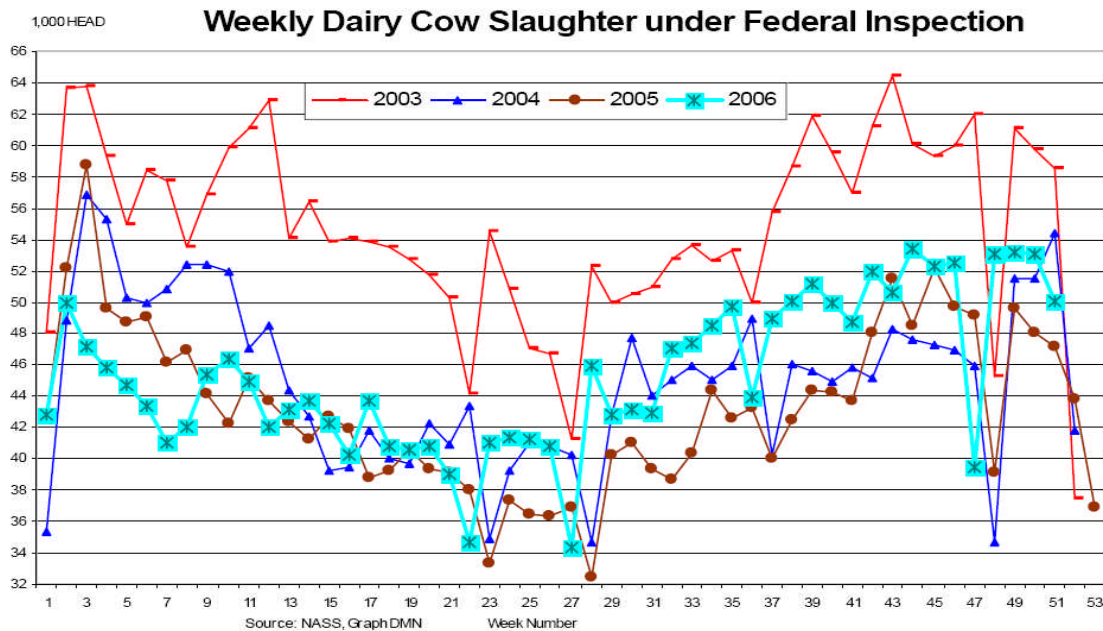
**Milk Production: Selected Dairy States, December 2006**

State	thousands			pounds			million pounds		% change total milk
	2005 cow numbers	2006 cow numbers	% change cow numbers	2005 milk per cow	2006 milk per cow	% change milk/cow	2005 total milk production	2006 total milk production	
Iowa	200	205	2.50%	1725	1725	0.00%	345	354	2.61%
MN	445	455	2.25%	1545	1575	1.94%	688	717	4.22%
WI	1239	1247	0.65%	1550	1570	1.29%	1920	1958	1.98%
IL	104	103	-0.96%	1570	1620	3.18%	163	167	2.45%
CA	1771	1785	0.79%	1795	1850	3.06%	3179	3302	3.87%
CO	105	114	8.57%	1890	1910	1.06%	198	218	10.10%
ID	472	500	5.93%	1830	1820	-0.55%	864	910	5.32%
NM	339	360	6.19%	1780	1690	-5.06%	603	608	0.83%
PA	557	549	-1.44%	1580	1620	2.53%	880	889	1.02%
NY	650	629	-3.23%	1545	1565	1.29%	1004	984	-1.99%
TX	324	345	6.48%	1720	1770	2.91%	557	611	9.69%
23-State	8179	8265	1.05%	1663	1689	1.56%	13599	13963	2.68%



Source: Dairy Market News

Source: Milk Production, NASS



Source: Dairy Market News

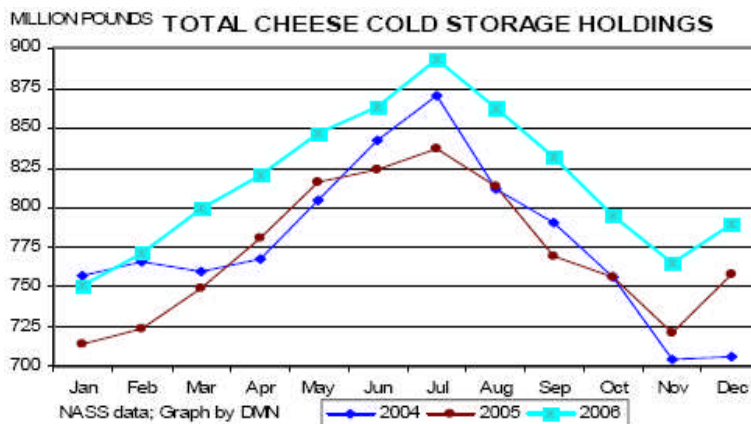
### Dairy Product Demand

Dairy product demand has gotten very interesting, especially dry dairy products. Dry whey and non fat dry milk (NDM) supplies are very tight due to domestic and export demand. Whey prices have been above \$0.40 per pound since early November. A 1 cent rise in whey prices at this level translates to a 5.8 cent increase in Class III milk prices. Whey prices were as low as 27-30 cents per pound during summer 06. NDM prices range from \$1.05-1.20 in the Western US with Central and Eastern prices from \$1.105-1.40.

November 06 fluid milk sales were up 1.8% compared to Nov 05. Year to date 2006 fluid milk increase has been 1.1%. A few early months of 2006 were actually below year ago amounts. Organic fluid milk sales are being reported but no growth rate reported since a full year of data has not yet been collected. The rate of growth will be interesting to see.

Total butter inventories as of Dec 31, 06 were 158% of Dec 05 and 98% of Nov 06. Total cheese inventories were 4% higher compared to one year ago and 3 % higher than the previous month.

Total commercial disappearance as of Oct 31, 2006 is estimated up 1.2% for Aug-Oct. Year to date, Jan-Oct, the increase totaled up 2.1%. The largest increase was in American cheese, up 5.5% year to date.



### Analysis

As I have mentioned before, there continues to be a disconnect between CME futures prices and the fundamentals of dairy supply and demand. As of closing on Jan 26, 2007, the CME Class III futures prices averaged \$15.02 for calendar year 2007, up 58 cents from the previous week. Cash cheese prices averaged up 5.75 cents for blocks and 6 cents for barrels. The change in CME futures prices during the week did reflect the

cash cheese market change. But based on a historic cash cheese market relationship to Class III prices, one would expect Class III prices to be \$1-1.50 per hundredweight lower.

Another consideration for dairy farmers looking at price risk is the opportunity they now have. The average 2007 CME Class III prices as of Jan 26 were not far from the record average of 2004. Most of that record was due to three very high months, April, May and June, That was a very unusual time of year for milk prices to reach a high, the spring milk flush.

The real story for the milk market bulls is the NDM and whey market. These products are very tight with the export market having a very strong influence on their supply and prices. Other dairy products have adequate supplies.

Much of the bullish sentiment in the dairy market appears to be the spillover in the corn market and worries about future milk supplies due to increasing feed costs. For some dairy producers it is a very real concern. Large dairy farms that produce minimal feed volumes are at much more risk than smaller operations that can produce all their forage and some grain. Using a typical Iowa dairy ration, feed costs could increase 70-85 cents per cow per day, possibly 20-25% more. Average daily milk production for a lactating cow is about 65.6 pounds. The gross income per cow per day has increased about \$1.50. That increase is due to higher Class III prices, up \$2.41 per hundredweight from September to December. At least for now milk prices have risen enough to offset increased feed costs. September's Class III price was too low for most dairy farms to cash flow, so these higher prices still haven't given good profitability to many dairy farms yet.

*Robert Tigner*

## January Cattle Report: Slight Decline in Beef Cow Numbers

Over all cattle inventories are up from a year ago, while beef cow numbers are down. Total cattle numbers increased by 0.3 percent in 2006, with an increased number of dairy cows and feeder cattle. Dairy cow numbers are up 0.7 percent, and feeder steers and heifers are up 1 percent and 1.7 percent respectively. The 2006 calf crop was nearly even with 2005 and the current calf inventory is down 0.1 percent. However, the recent building of the national beef cow herd appears to have stalled and may be starting a decline. Beef cow numbers are down 0.3 percent, and the number of beef replacement heifers is down over half a percent. Table 1 contains a summary of the USDA Cattle Report and the changes in cattle numbers compared to a year previous.

**Table 1. January US Cattle Inventory**

	<b>Jan. 1, 2007 1,000 head Inventory</b>	<b>% Change</b>	<b>1,000 head Change</b>
Total Cattle	97,003	0.3%	301
Cows that have calved	42,023	-0.1%	-33
Beef Cows	32,894	-0.3%	-100
Dairy Cows	9,129	0.7%	66
Heifers, over 500 lbs	20,086	0.5%	102
Beef Replacements	5,877	-0.5%	-27
Expected to calve	3,568	-0.3%	-12
Dairy Replacements	4,310	0.8%	35
Expected to calve	2,842	-1.9%	-54
Other Heifers	9,899	1.0%	94
Steers, over 500 lbs	17,222	1.7%	289
Bulls, over 500 lbs	2,215	-2.1%	-48
Calves under 500 lbs	15,456	-0.1%	-9
Cattle on feed	14,269	1.0%	137
2006 Calf Crop	37,567	0.0%	-8

Considering the very profitable feeder calf prices over the past 4 years, why would producers not continue to increase their cow herd through 2006 and into 2007? There are several factors that are influencing this change in direction. First, the summer of 2006 drought in the southern plains states created a shortage of pasture, prompting many producers to wean earlier and then cull heavier than usual. In turn, more slaughter cows entered the market, and beef cow slaughter was up 18.2 % in 2006. Table 2 is a breakdown by quarter of the change in the number of cows slaughtered. The number of beef cows slaughtered increased by almost a third in the quarter when the drought and pasture conditions were worst.

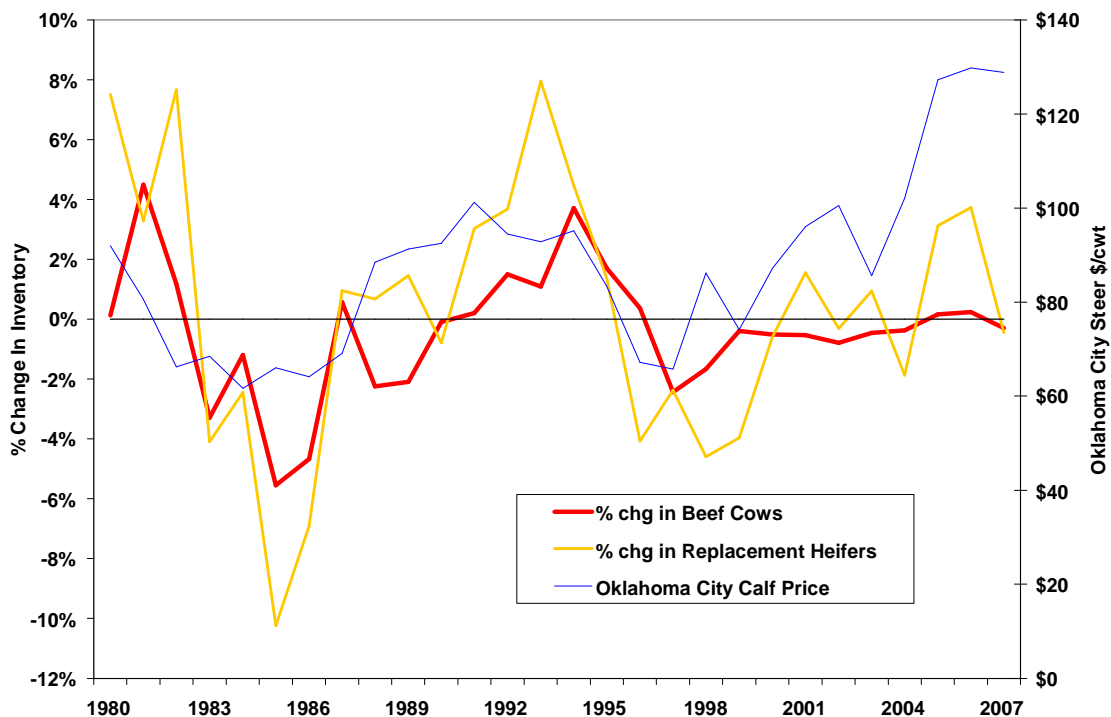
**Table 2. Cow Slaughter, 2005 to 2006**

	Total Cow Slaughter			Beef Cow Slaughter		
	2005	2006	% change	2005	2006	% change
	1000 hd	1000 hd		1000 hd	1000 hd	
<b>Jan-Mar</b>	1232.4	1240.5	0.7%	621.8	662.0	6.5%
<b>Apr-Jun</b>	1121.5	1246.7	11.2%	621.2	716.4	15.3%
<b>Jul-Sep</b>	1118.3	1356.9	21.3%	584.5	761.0	30.2%
<b>Oct-Dec</b>	1302.8	1491.3	14.5%	695.3	842.4	21.2%
<b>Annual</b>	4775.0	5335.3	11.7%	2522.8	2981.8	18.2%

Feed costs are another factor currently on all cattle producers' minds. Plentiful, cheap corn and strong fed cattle prices over the past three years helped fuel demand for feeder cattle and improved feeder cattle prices. Now that corn is no longer "cheap", many cow-calf producers may feel that the days of great calf prices are about to end. As discussed in a previous Iowa Farm Outlook letter, feeder cattle prices took a sharp turn south last fall when corn prices turned north. Feeder cattle will sell for less in 2007 than in the past three years, but that does not mean that calf production will not remain profitable. As feedlots search for and utilize more alternative feeds such as distiller co-products, and fed cattle prices are supported by demand for beef, feeder cattle will remain a desired commodity.

Usually the cattle cycle follows a ten year course of herd building and then reduction, but the percentage change in cow numbers during this cycle has been fairly small. Figure 1 is a graph of the percent change in beef cow numbers and replacement heifer retention. The graph also contains the Oklahoma City 500-600 pound steer price as of the first week in September in the previous year.

**Figure 1. Percent Change in Beef Cow and Replacement Heifer Inventories**



As the graph shows, the beef industry tends to follow a cycle of building the national cow herd when calf prices are up. However, the usual response to increase cattle numbers has been very shallow in the current cattle cycle. Either because of caution, cost of expansion, or limited resources such as pasture the national beef cow inventory does not show signs of increasing in the coming year.

*Shane Ellis*