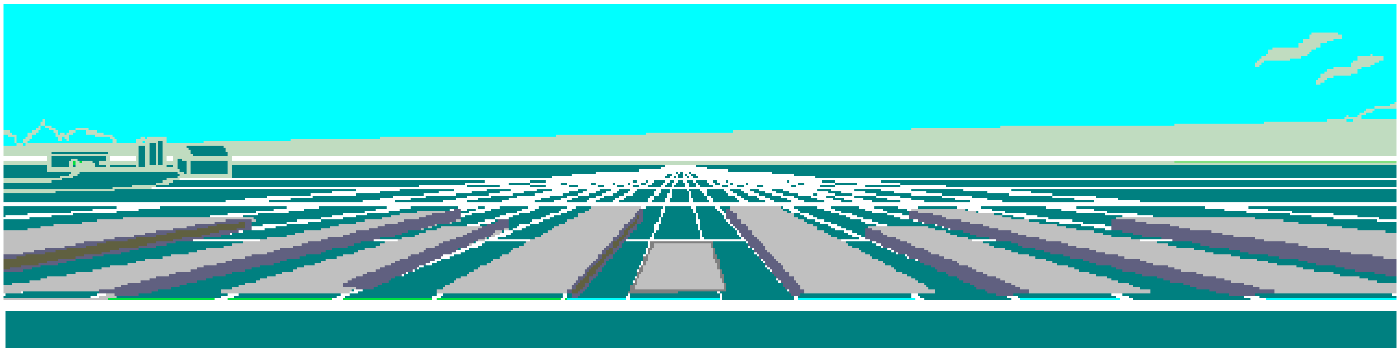


February 1, 2001 Ames, Iowa Econ. Info. 1806

CATTLE INVENTORY CONTINUES TO DECLINE

Cattle producers continue to trim their herds in spite of recent profitable conditions in the feedlot and cow herd. The January 1, 2001 inventory of all cattle and calves in the United States was estimated at 97.3 million (Table 1). This figure is 1 percent below the year before and 2 percent below the inventory two years ago. The number of cows and heifers that have calved was 42.6 million head, slightly below the January 2000 figure and 1 percent below the 1999 figure.

The beef cow inventory totaled 33.4 million, down 1 percent from January of both 2000 and 1999. However, the milk cow inventory, 9.20 million head, was slightly higher than a year ago and 1 percent above two years ago. As a result of the declining cow herd, the 2000 calf crop was estimated at 38.6 million head, down slightly from both 1999 and 1998.

Table 1, USDA January 1, 2001 Cattle Inventory.

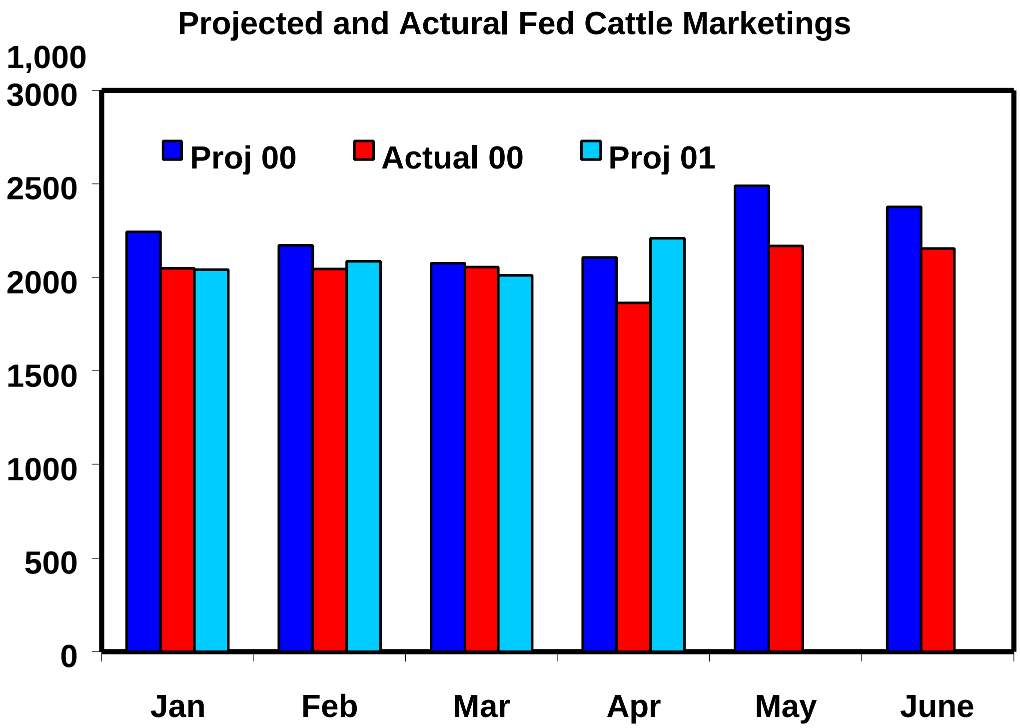
	1,000 Hd	% Chg. 2000
Cattle and Calves	97,309	-0.9
Cows and Heifers That Calved	42,603	-0.4
Beef Cows	33,400	-0.5
Milk Cows	9,203	0.1
Heifers 500 Pounds and Over	19,775	0.6
Beef Cow Replacement	5,588	1.5
Milk Cow Replacement	4,047	1.2
Other Heifers	10,140	-0.1
Steers 500 Pounds and Over	16,438	-1.5
Bulls 500 Pounds and Over	2,272	-0.9
Calves Under 500 Pounds	16,221	-3.5
Cattle on Feed	14,199	1.4
2000 Calf Crop	38,621	-0.5

Cattle on Feed

The total number of cattle on feed was 14.2 million head, up 1.4 percent from the year before. Approximately 83 percent of this inventory was in feedlots with 1000 head capacity or larger. The number of feeder cattle over 500 pounds available for placement was down 3.5 percent as was the number of calves under 500 pounds.

Total marketings Jan 1 – 27 were 5.6 percent (155,00 head) below last year at this time. The projected marketings in Figure 1 indicate that fed cattle marketings are expected to be less than year earlier levels through March, but possibly higher in April. The April figure could be lower as well because there were a larger number of lighter weight cattle placed last fall, which could carry marketings over into May.

The lighter placement weight and harsher feeding conditions this winter compared with last winter could also reduce carcass weights and overall beef supplies. However, steer and heifer carcass weights during December averaged only 2-3 pounds lighter than December 1999. Premiums on Choice cattle, feeding profits, and higher price replacements will encourage feedlots to hold cattle longer.



Choice boxed-beef prices hit $131 on January 16 and had slipped below $125 by the end of the month. Likewise, Live Cattle Futures put in a high on January 16 and have since retreated over $3/cwt. Fed cattle prices are expected to trade in the upper $70s through mid-April before trending lower. Movement above $80 will likely be associated with market disruptions due to weather, tighter than expected supplies in April, or a return to the exceptional demand the market enjoyed in late 1999 and most of 2000.

Seasonally, prices can be expected to put in summer lows below $70. The smallest decline from the spring high to the summer low since 1973 has been $6/cwt. The average decline is $13-14/cwt. Even with smaller supplies in the second quarter and beyond, prices may not exceed year earlier levels because of the extremely strong demand in 2000.

Feeder cattle will remain valuable property considering the recent feedlot profits and smaller supply of feeders available for placement. The number of feeder cattle outside feedlots is approximately 4 percent below year earlier levels. Yearlings are expected to trade in the mid-upper $80s for most of the spring and summer, but will be dependent on corn prices.

Iowa Inventory

Iowa's cattle inventory was 3.65 million head, 50,000 head or 1 percent lower than the year before. The bulk of the decline came from a 40,000 head, 4 percent decline in the number of beef cows, which now stands at 985,000 head. The drop is likely related to the dry pasture conditions earlier in the year and concerns about tight feed supplies this winter. The state's beef heifer inventory was 3.5 percent above the year before. Milk cow numbers were stable at 215,000 and dairy heifer replacements were up 4.5 percent. Iowa's calf crop in 2000 was 1.12 million head, down 30,000 head or 2.6 percent.

The number of cattle on feed in Iowa was approximately 5 percent lower at 1.05 million head on January 1, 2001. Approximately 37 percent of the state's inventory is in feedlots with 1000 head capacity. The remaining 63 percent is in smaller feedlots.

Industry Structure

Table 2 summarizes the number of farms with beef cows in the U.S. and Iowa, as well as the distribution of farms and inventories by size of herds. Approximately 79 percent of the U.S. beef herds (653, 550 herds) have fewer than 50 cows and account for 29 percent of the beef cows with an average size of 15 head. Over 90 percent of herds have fewer than 100 cows, but account for nearly half the inventory. While admirable from a small farm perspective, this structure makes it difficult for the beef industry to react to changes in quality, food safety, or disease outbreaks because there are over three-quarters of a million decision makers who must be informed and educated. There are approximately 230 feedlots that will feed two-thirds of these calves, and three packing companies that will process 75 percent of the calves. Iowa's beef cow herd structure is comparable to that of the nation. About 93 percent of the herds hold 64 percent of the cows.

Table 2. Number of Farms and Share of Farms and Inventories with Beef Cows, 2001.

	1-49	50-99	100-499	500+	Total
US Farms with Beef Cows					
Operations	653,550	100,640	71,175	5,515	830,880
% of Operations	78.7	12.1	8.6	0.7	
% of Inventory	29.3	19.2	36.8	14.7	
Iowa Farms with Beef Cows					
Operations	19,700	5,000	2,250	50	27,000
% of Operations	73.0	18.5	8.3	0.2	
% of Inventory	35.0	31.0	31.0	3.0	

John Lawrence

THREE-DOLLAR CORN AND THREE-DOLLAR SOYBEANS?

An Iowa radio station that is widely listened to recently quoted one market analyst as forecasting $3 corn and $3 soybeans next fall. This forecast is making coffee shop discussions about possible corn-to-soybean acreage shifts livelier. Are these prices possible? The answer is yes, despite a long history of the western Corn Belt soybean/corn price ratio being in a $2.30 to $2.45 range. Are these prices likely to occur next year? *That's a very different question.* **What conditions would be required for that to happen? Can we quantify the changes in production needed in the year 2000 for $3 corn and soybeans to occur? Here are some perspectives and partial answers to these questions.**

What would be needed to make this happen?

To bring such a dramatic change in the corn/soybean price ratio, the grain/oilseed markets would likely need some combination of: (1) sharply reduced U.S. corn acreage and modestly increased U.S. soybean acreage, (2) an unusually dry June and July this year but good August and early September rains, (3) a sharp increase in U.S. corn exports stemming from either a second year of major Chinese crop problems, resolution of Starlink problems, and/or possible Chinese decisions to curtail corn exports, despite a likely recovery from last year's weather and insect problems.

Balance Sheets (http://www.econ.iastate.edu/faculty/wisner/GrainBalance/BAL2001.pdf)

To get a perspective on how much acreage switching between corn and soybeans would be needed, let's start with the projected corn balance sheets for 2001-02, which show our mid-January projections for the year ahead, with sharply below normal, normal, and slightly above normal yields (Columns A, B, and C, respectively). Note that column A of the Corn Balance sheet shows U.S. marketing year average corn prices just under $3/ bushel and harvest futures moderately above $3. Note that column C of the Soybean Balance sheet shows Iowa harvest-time soybean prices in the low $4 per bushel area. Column B, the normal weather or most likely column, is a starting point for the analysis.

Note that column A (corn)shows approximately 2 billion bushels less corn production than column B—due to widespread adverse weather. Suppose farmers across much of the Midwest shift land from corn to soybeans, creating a similar decline in production even if weather is approximately normal. Most likely they would shift lower quality land to soybeans and leave the best for corn. Let's use an average yield on the shifted corn acres nationally of 125 bushels per acre, about 13 bushels below a normal national average yield. Where nematodes are not a problem, continuous corn would be the first to shift to soybeans. It is well known that such corn has a yield disadvantage of 10 to 12 percent versus corn rotated with soybeans. Two billion bushels divided by 125 bushels per acre indicates farmers would need to take about 16 million acres out of corn production, assuming other market factors remain unchanged from column B of Table 1—to boost prices to about $3 without help from the weather. That would be about a 22 percent decline from last year in U.S. corn plantings, ignoring the tendency of shifting lower-yielding land out of corn to modestly boost the average yield on the acres remaining in production. Suppose our most likely 2001-02 corn exports are too low by half a billion bushels or 25%. In that case, with normal weather, a shift of about 12 million acres of corn or a plantings reduction from last year of about 17% would be needed.

Next, looking at soybeans, a shift of 22 million acres into soybeans with a U.S. average yield on those acres of 35 bushels per acre would produce about 770 million bushels more soybeans than in column B. An increase of 17 million acres in soybean plantings from last year would boost production by about 600 million bushels. Adding that to the 2001-02 carry-in stocks would generate total supplies of 3.80 to 4.00 billion bushels, up 20 to 25 percent from last year. Using our usual price forecasting rule that a one percent change in U.S. soybean supplies brings a 2.5 percent change in the season average price (provided all other market factors are unchanged), that would push the expected Iowa season average price down to about $1.75 to $2.30 per bushel. And that doesn't count a likely shift of acreage from winter wheat to soybeans in some areas. At these prices, the soybean LDP likely would be around $3 to $3.50 per bushel, and would likely trigger significant changes in farm policy.

Are such dramatic shifts in plantings likely? Probably not, although a modest shift from corn to soybeans appears likely. Our balance sheet shows a 0.7 million-acre shift from corn to soybeans plus a 0.5 million-acre shift from other crops into soybeans. Actual plantings will be influenced by fertilizer prices and availability this spring. In irrigated corn areas of the Southwest, high costs of natural gas for irrigation may cause some shift out of corn to grain sorghum and soybeans. However, acreage impacted in that region is relatively small compared with the amount of corn planted in the Midwest.

Nitrogen and natural gas market developments

Nitrogen fertilizer costs will be a significant influence on the final 2001 corn/soybean acreage pattern. These markets can be very emotional in times of strong demand or tight supplies. That has been the case this winter with both natural gas and nitrogen fertilizer, two closely related markets. Natural gas is the basic feedstock for producing nitrogen fertilizer. It is not unusual for markets to over-react on the upside under such conditions. *February natural gas futures on the New York market as of February 1 had fallen 36 percent from the early January high.* **Prices on the April natural gas futures contact at the peak in January were about 30 percent lower than corresponding prices on the February contract.** *Even so, April futures prices have declined by 24 percent since the peak. Natural gas prices on the April contract currently are about 18 to 20 percent higher than in late October.* **February futures prices were about 22 to 24 percent higher than last September and October. These prices are strongly influenced by the weather, as well as by user conservation. Trade sources currently indicate gas stocks have shown a smaller-than-normal seasonal decline in recent weeks, suggesting that high prices have produced significant energy conservation efforts.**

In the week ended February 1, gulf prices for anhydrous ammonia were reported to have declined $5 to $15 per ton from the previous week, along with earlier declines. Nitrogen facilities at Donaldsonville and Avondale, La were reportedly being brought back into operation, along with another facility in Oklahoma, and imports also were generating some price pressure. Extreme cold for the month of December and for shorter periods in January were major contributors to strong demand for natural gas for home and industrial heating.

Along with input costs, agronomic considerations also will be important in determining the corn/soybean acreage mix for this year. A considerable amount of continuous corn exists in northern Iowa and southern Minnesota, ***because of soybean cyst nematodes.*** While without this problem, the soybean loan rate tends to favor soybean plantings over corn, reducing the expected soybean yield by 4 to 6 bushels per acre or more significantly lowers soybean returns and shifts economics in favor of corn. Also, most farmers are likely to be reluctant to shift to continuous soybeans or to multiple years of soybeans on the same land. Multiple-year plantings of soybeans can create extra disease and pest problems in following years.

Robert Wisner