

## In The Cattle Markets

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### *North and South*

In the March 5, 2007 issue of *In the Cattle Markets*, I discussed the shift of cattle placements from the Southern Plains to the Northern Plains (<http://www.lmic.info/memberspublic/InTheCattleMarket/Archives/2007/cattlemarkets0305.pdf>). At the time, I suggested there were a number of factors that were giving the Northern Plains feeders a comparative advantage this past winter: 1) relatively better weather conditions, 2) lower corn and feedstuff prices, and 3) availability of ethanol co-products. While the Southern Plains typically offer advantages for cattle feeding as well, I continue to receive a lot of questions regarding the cost of gain advantages that feeders in Nebraska, Iowa, and South Dakota have.

Consider placing a 750 lb steer on feed in either the Southern Plains or the Northern Plains. The average price for that steer last week in Nebraska was \$119.74/cwt, compared to \$113.50/cwt in Oklahoma City. Let's assume that the steer's feeding performance will be exactly the same regardless of where it is fed (an assumption to make comparisons across prices more directly observable). Assume the steer would consume 24 lbs of feed per day (dry matter basis) and convert it to 3.69 lbs of gain, for a feed conversion of 6.50 lbs of feed per lb of gain (DM). To feed the steer to a finished weight of 1,200 lbs would take 122 days. Let's also hold other budget items constant as well for each location: yardage at \$0.35 per day, interest at 8.1%, processing and veterinary/medicine costs at \$14.00 per head. Late last week, corn price was \$3.81/bu in the Texas Triangle and \$3.39/bu in Omaha, NE. Feedlot quality hay was \$110/ton and \$90/ton, respectively. These higher feedstuff costs in the Southern Plains result in a ration cost of \$161.46/ton (DM), \$17/ton more than the \$144.37/ton (DM) ration cost in the Northern Plains. This assumes a ration of approximately 89% corn, 7% hay, and 4% supplement in both locations. Thus, the feeding cost of gain is \$5.27/cwt lower for the Northern Plains feedyard (see first two columns of Table 1). Notice that this savings, however, is essentially lost by the feeder steer price in the Northern Plains being \$6.24/cwt higher. So, the breakeven selling price for the 1,200 lb slaughter steer is \$2/cwt higher in the Northern Plains.

One way that Northern Plains feeders have maintained competitiveness is to feed ethanol co-products. While use of distillers grains occurs in the Southern Plains as well, transportation costs for these products (particularly wet distillers grains) is somewhat prohibitive. As a result, inclusion rates of these products are likely lower in the Southern Plains. University of Nebraska–Lincoln research has shown that significant advantages in feeding performance result from rations replacing up to 40% of the corn with ethanol co-products, particularly wet distillers grains plus solubles (WDGS) (<http://beef.unl.edu>). Let's consider our previous example for the Northern Plains, this time replacing 30% of the corn in the ration with WDGS priced at \$47.00/ton (the average price in Nebraska last week), which was 101% of the corn price (DM basis). This results in a predicted feed conversion of 5.79 lbs feed per pound of gain, 11% better than the corn-only diet, and a 17% improvement in average daily gain.

Thus, the feeding period is reduced by 18 days, leading to cost savings in yardage, interest, etc. Because feeding WDGS typically results in additional costs (e.g., transportation, handling, mixing), these costs were included as well in the third column of Table 1. These costs, combined with using WDGS priced higher than corn (on a DM basis) results in the ration cost being \$4.84/ton higher. However, the improvements in performance result in feeding cost of gain dropping to \$61.89/cwt, \$5.34/cwt lower than the Northern Plains corn-only diet. Thus, the breakeven selling price for the finished steer in this scenario is \$98.05/cwt, lower than either the Northern or Southern Plains scenarios with no co-product. To the extent that cattle feeders can purchase WDGS that is less expensive than corn, the feeding cost of gain and breakeven selling price decrease. For example, the lowest WDGS reported last week in Nebraska was \$35/ton. Lowering the WDGS price from \$47/ton to \$35/ton lowers feeding cost of gain to \$58.70/cwt and the breakeven selling price to \$96.85/cwt.

**Table 1. Feeding Cost of Gain for 750 lb Steer Fed in Northern & Southern Plains**

	Southern Plains No Co-Product	Northern Plains No Co-Product	Northern Plains Co-Product
Feeder Steer Weight, lbs	750	750	750
Feeder Steer Price, \$/cwt	113.50	119.74	119.74
Feed Conversion, lbs feed/lb gain (DM)	6.50	6.50	5.79
Dry Matter Intake, lbs/day	24.0	24.0	24.98
Average Daily Gain, lbs/day	3.69	3.69	4.32
Days on Feed	122	122	104
Corn Price, \$/bu	3.81	3.39	3.39
Hay Price, \$/ton	110.00	90.00	90.00
Wet Distillers Grain + Solubles Price, \$/ton	--	--	47.00
Ration Cost, \$/ton (DM)	161.46	144.37	149.21
Feeding Cost of Gain, \$/cwt	72.50	67.23	61.89
Breakeven Selling Price, \$/cwt	98.12	100.05	98.05

This analysis is, of course, based on a set of assumptions, including Southern Plains cattle not consuming ethanol co-products. Certainly, they are fed some level of dry distillers grains, and performance is likely improved as a result. Still, transportation costs would make distillers grain prices higher in the Southern Plains, as does the cost of drying the distillers grains.

Another assumption made in this comparison is that the yearling steer performance would be the same in the Northern and Southern Plains. Differences in weather, genetics (as suggested by the feeder price differential), and other factors may cause feeding performance to vary by region. A third factor to remember is that these comparisons are based on the feeder steer price being \$6.24/cwt less in the Southern Plains. While that price differential is typical, to the extent that feeders can originate cattle FOB their feedyard at the same price or at a smaller spread, the advantage to the Northern Plains feeders would increase.

### ***The Markets***

Last week, the fed cattle market continued to rebound from its low posted the last week of June. Slaughter cattle prices averaged \$141.94 on a dressed basis in Nebraska, up \$2.56 from the previous week. Live cattle prices were also higher in Kansas last week, averaging \$90.55. Choice boxed beef increased \$1.64 last week; however, the spread between Choice and Select beef narrowed by \$1.34. Feeder calf prices were mostly steady last week in Nebraska, but yearling steers averaged \$5.75 higher, in spite of a \$0.20/bu increase in corn prices

	<b>Last Week</b>	<b>Previous Week</b>	<b>Last Year</b>
Kansas Fed Steer Price, live weight	\$90.55	\$90.03	\$81.22
Neb. Fed Steer Price, dressed weight	\$141.94	\$139.38	\$127.87
700-800 lb. Feeder Steer Price, Kansas 4 market average	\$115.59	--	\$117.12
500-600 lb. Feeder Steer Price, Kansas 4 market average	\$124.42	--	\$131.58
700-800 lb. Feeder Steer Price, Neb. 7 market average	\$119.74	\$113.99	\$122.15
500-600 lb. Feeder Steer Price, Neb. 7 market average	\$135.89	\$135.35	\$141.87
Choice Boxed Beef Price, 600-900 lb. carcass	\$142.42	\$140.78	\$149.59
Choice-Select Spread, 600-900 lb. carcass	\$6.00	\$7.34	\$22.05
Corn Price, Omaha Nebraska, \$/bu (Thursday quote)	\$3.39	\$3.19	\$2.29
DDG Wholesale Price, Iowa, \$/ton	\$95.00	\$95.00	\$73.50