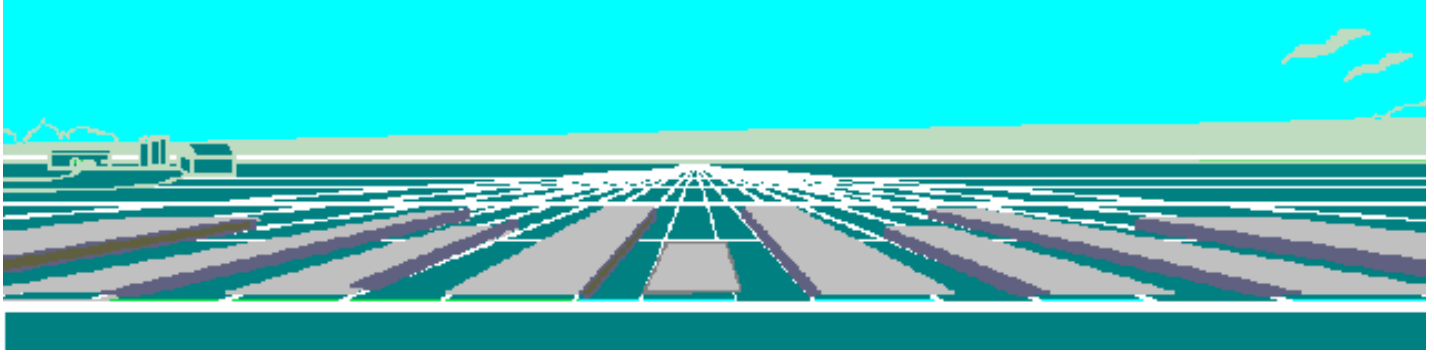


Iowa Farm Outlook



May 15, 2006

Ames, Iowa

Econ. Info. 1934

Value of Single Source and Backgrounded Cattle as Measured by Health and Feedlot Profitability

Babatunde Abidoye and John Lawrence

A graduate student of mine recently presented the preliminary results of research on the value of feeder cattle to the feedlot based on the number of sources in the pen. This is a brief summary of the results that were presented at a professional conference in St Louis in April. This research used data from the Tri-County Steer Carcass Futurity and would not have been possible without their cooperation and painstaking detail in data collection.

Introduction and Objectives

The US cattle industry is made up of 770,000 farms with beef cows producing feeder cattle of which over 85% are fed in approximately 2200 feedlots. Nearly a third of US calves are born on farms with less than 50 cows, and thus commingling of cattle into larger lots to fill trucks and feedlot pens is a business reality. How cattle are managed shortly before weaning until arrival at the feedlot can greatly impact the performance and profitability of the cattle in the feedlot as it impacts the health of the animal and thus performance, efficiency, and carcass grading.

Although the terms preconditioning and backgrounding are often used interchangeably, there are differences. For the purpose of this study we will define preconditioning as cattle that have been properly vaccinated, started on feed, and held on the farm of origin for at least 45 days post weaning before being commingled with other cattle at the feedlot. Backgrounding, in this study, is defined as cattle commingled at weaning with other cattle, vaccinated, and started on feed at least 45 days before going to the feedlot. The question is whether preconditioned cattle commingled at the feedlot are comparable to backgrounded cattle that were commingled prior to entering the feedlot?

This research evaluated 15,349 head of retained ownership cattle fed in 144 groups or pens that were either commingled and background prior to the feedlot or as preconditioned cattle that were commingled at the start of the feeding period in the feedlot. The cattle were compared on feedlot performance, carcass grade, and feedlot profitability to address the following objectives:

- Does the source or number of sources impact feedlot performance and carcass value?
- Are backgrounded cattle “as good as” single source cattle?
- How much adjustment can a feedlot afford to pay for cattle due to number of sources and pre-feedlot management?

Data

Individual performance and carcass data from 15,349 calves fed in 12 Iowa Feedlots in 2001-2005 under the Tri-County Steer Carcass Futurity Cooperative (TCSCF) program is used for this study. In each feedlot, there are multiple pens of cattle where commingling of cattle from different owners occurs. An animal was characterized as single source if only one owner owns all the cattle in the pen. Likewise, it is considered 2 or 3 sources if there are two or three owners in the pen, and 4 or more sources if there are four or more owners in a pen. Information on animals that were backgrounded was provided by the manager of TCSCF. There are 4 or more owners of cattle in all of the backgrounded pens, but these cattle were commingled at weaning into a common backgrounding lot and raised for 60 or more days before being shipped to TCSCF feedlots.

Methods

In order to estimate the feedlot and carcass performance of preconditioning and backgrounding, five different models were estimated. Discrete choice models (Logit) for health performance, Quality grade and Yield grade and least squares (OLS) estimation for estimating average daily gain (ADG) and profit equations.

Results

Health: The Logit coefficients on health suggest that the older and heavier the animal is at delivery to the feedlot, the higher the probability of it being healthy in the feedlot. In comparison to single source cattle, backgrounded cattle are about three times worse in terms of health but performed better than cattle that were commingled in the feedlot. This suggests that cattle commingled in the backgrounding yard are healthier in the feedlot than their preconditioned counterpart commingled in the feedlot but not healthier than single source. All coefficients were significant at 5% level.

Average Daily Gain (ADG): As stated earlier, a least square model was used. Our result shows that cattle commingled in the backgrounding yard had lower ADG than single source cattle and cattle commingled in the feedlot. The feedlot appears to be giving up some compensatory gain on backgrounded cattle, but for retained ownership cattle, the owner of the cattle may be indifferent as to where the gain occurs.

Quality grade: From the logistic regression, single source cattle have a higher probability of grading upper Choice or Prime than cattle commingled in the backgrounding yard and those commingled in the feedlot.

Yield Grade: Single source cattle have higher probability of YG 4 or 5 than those commingled. An explanation for this might be because commingled cattle are more challenged than those that are not commingled and as a result are leaner.

How much adjustment can a feedlot afford to pay?

Using a least square regression, the profitability of preconditioned and backgrounded cattle in the feedlot conditioned on other cattle characteristics is estimated. On how much adjustment a feedlot can afford to pay for cattle due to number of sources and pre-feedlot management, these results show that a discount of \$8 per head on backgrounded cattle relative to single source cattle. There was no statistical difference between how much discount they should pay between cattle commingled in the backgrounding yard and those commingled with more than four sources in the feedlot. The coefficients are jointly different from zero.

Implications

Information on the management practice used prior to the feedlot is quite valuable to the feedlot manager; however, of more importance is commingling practice in the feedlot too in determining how profitable cattle will be. The feedlot manager has to decide whether to buy backgrounded cattle in a large group or preconditioned cattle that must be commingled in the feedlot. Both are less profitable than single source. If backgrounded cattle are however priced the same as single source cattle at the feeder auctions, then the feedlot manager will probably find it more profitable not to commingle in the feedlot.

Markets React to USDA First 2006-07 Supply-Demand Projections, Planting Delays in North Dakota & Minnesota

Summary & Implications from USDA Reports

USDA's May 12 U.S. and World Supply-Demand Reports contained the first official projections of U.S. and global feed grain and wheat supplies and utilization for the year ahead, along with U.S. soybean projections. As expected, the soybean projections showed record large U.S. carryover stocks anticipated for this summer, along with a further increase that is anticipated next year. August 31, 2006 U.S. carryover stocks are expected to be more than five times as large as two years earlier. That news has been negative for soybean price prospects. However, corn carryover projections for this August 31 were lowered slightly and the projections show a sharp decrease in U.S. corn carryover stocks for August 31, 2007. The 8/31/07 corn carryover is projected to drop to 1.14 billion bushels. That's about a 5-week supply and would be about half as large as this year. The decrease was 300 to 400 million bushels larger than many trade analysts had expected, because of the combined impacts of moderately higher corn exports indicated in the year ahead and a 34% increase in corn processing for ethanol. ***Projections of declining corn carryover stocks and the rapid expansion in the ethanol industry will make corn prices potentially very sensitive to any weather concerns this summer.***

The projected increase in ethanol processing was the same as USDA indicated in February at its annual outlook conference. Larger U.S. exports reflect sharply reduced production in Argentina and South Africa this spring and an expected reduction in foreign wheat feeding. As expected, USDA based its corn production on acreage from the March 30 planting intentions report. That report showed a 4.6% decrease from last year in prospective U.S. corn plantings and 6.7% increase in soybean plantings.

USDA analysts projected the U.S. average corn yield for 2007 at 149 bushels per acre, up from 147.9 bushels last year. A 25-year trend yield would be 146.8 bushels per acre, and a 15-year trend would be 147.9 bushels per acre. If the projections materialize, corn supplies will be tighter than our recent balance sheets have indicated, and average corn prices may be somewhat above our earlier indications. However, these projections are very tentative, partly because of uncertainty about actual planted acreage and this year's U.S. and foreign yield prospects. For soybeans, USDA analysts used a 15-year trend yield of 40.7 bushels per acre, down from last year's record U.S. average yield of 43.3 bushels per acre.

What Might Change Supply-Demand Prospects?

Actual planted U.S. corn acreage is a key unknown that could make the supply-demand picture less tight than currently indicated. As we noted in the last issue of Iowa Farm Outlook, this year's very early planting season in the western Corn Belt and changing corn/soybean price relationships may have encouraged farmers to plant more corn than indicated in the March 30 report. Planting delays in the last 10 days in Indiana, parts of Minnesota, and the Dakotas may prevent farmers from planting as much corn as last year, but it would not be surprising to see more corn planted than the March data which USDA used in its analysis. USDA's projected corn yield and 1.6 million more corn acres than indicated in March would produce about 340 million extra bushels of corn, thus tempering the decline in corn stocks. That would reverse about 40% of the intended reduction in 2006 U.S. corn plantings. Elwynn Taylor, ISU Extension Climatologist, indicates there is a much higher than normal risk of below-trend yields this year because of long-term weather cycles and indications that the La Niña pattern may intensify. If the U.S. corn yield would be 5 to 10 percent or more below the long-term trend, corn prices would be almost certain to move sharply higher. Other unknowns include the actual level of corn processing for ethanol next season and corn exports. Some industry analysts believe part of the new ethanol plant capacity under construction will not be in operation for the full marketing year and may hold production a little below USDA projections.

Week Ending				
	May 14, 2006	May 7, 2006	May 14, 2005	5-Year Avg.
Percent Planted				
CO	64	37	56	64
IL	95	85	97	84
IN	74	52	87	70
IA	92	81	95	84
KS	89	81	90	89
KY	88	85	92	80
MI	79	62	80	59
MN	76	56	87	78
MO	96	93	94	86
NE	89	67	87	80
NC	99	97	95	95
ND	57	31	68	59
OH	90	78	87	72
PA	75	58	70	61
SD	65	35	71	61
TN	93	92	96	95
TX	96	91	91	94
WI	75	52	74	56
18 states	85	70	88	77
1/ These 18 States planted 93% of last year's corn acreage.				

Planting Progress

Planting progress in the next 10 days will be an important influence on this year's planted acreage and potential corn and soybean yields. Planting progress so far should be a positive influence on yield potential for much of the Midwest. While plantings have been behind normal in the states noted in our heading above (see Tables 1 & 2), the delays at this writing don't appear to be serious. However, delays beyond May 22 would be a concern, from the standpoint of increased frost and yield risk in the northern states next fall and possible increased vulnerability of yields to dry weather during the pollination season. Delays beyond May 22 could also push some intended corn acres in these states into soybeans. Planting progress for the first two-thirds of the corn was well ahead of last year's early planting season in much of the western Corn Belt as well as in Kentucky, Missouri, Michigan, and Ohio, and was near last year's early pace in Iowa, Nebraska, and Wisconsin.

Soybean plantings are running later than normal in Illinois, Indiana, Kansas, Kentucky, and Minnesota. However, in mid-May, that is not yet a serious concern.

In the last few weeks, widespread rains have replenished soil moisture in much of the Corn Belt. Soils in a large part of the region appear to have an almost full profile of moisture, and in parts of northern Iowa, Minnesota, the Dakotas, and Indiana, wet soils have been slowing planting progress. Seven-day forecasts at this writing show the potential for a few scattered showers in northern Iowa, Minnesota, the Dakotas, and Illinois. However, rain chances are higher early in the period for parts of Indiana and Ohio.

Supply-Demand Projections

Our latest supply demand projections for corn and soybeans are shown on our web site, in the right hand-column:

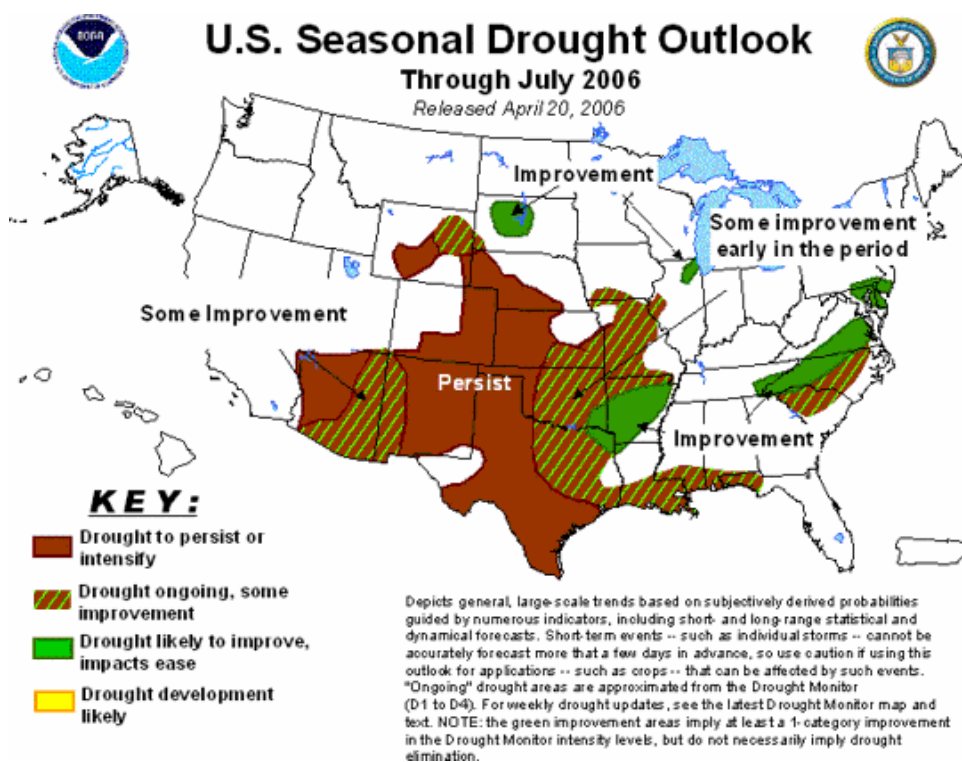
<http://www.econ.iastate.edu/faculty/wisner/>
The projections include three alternative yield scenarios for the 2006-07 marketing years for corn and soybeans. Long-term probabilities shown at the bottom of the balance sheets are based on long-term history of yield deviations

Week Ending				
	May 14, 2006	May 7, 2006	May 14, 2005	5-Year Avg.
Percent Planted				
AR	40	38	56	42
IL	31	14	66	43
IN	32	15	54	44
IA	41	17	42	35
KS	12	7	33	28
KY	18	12	39	23
LA	67	62	57	53
MI	54	25	53	32
MN	21	6	26	33
MS	93	91	89	82
MO	26	15	40	26
NE	32	9	33	28
NC	18	13	22	18
ND	19	8	18	18
OH	68	45	58	47
SD	13	3	12	15
TN	18	13	28	19
WI	26	10	38	22
18 States	33	18	43	35
1/ These 18 States planted 95% of last year's soybean acreage.				

from the trend, and are not presented as indications of this year's probabilities. As noted earlier, Dr. Elwynn Taylor, ISU Extension Climatologist, indicates the risk of widespread drought this year is much higher than the long-term averages. Our projections also include 1.6 million more corn planted acres than indicated in the March intentions report and 0.9 million fewer soybean planted acres. Double cropping of soybeans after the wheat harvest and replanting of failed winter wheat to soybeans may be greater than last year and March intentions.

Initial USDA 2006-07 Supply-Demand Projections

USDA's May 12 projections of supplies, utilization, and prices for the 2006-07 marketing year are available on our web site, just below our balance sheets. Its crop projections are based on corn yields modestly above the 15 and 25-year trends and the March planting intentions acreage numbers. USDA economists anticipate demand for corn will be modestly higher than indicated in our projections. The mid-point USDA's projected prices for next season are \$2.45 per bushel for corn and \$5.60 per bushel for soybeans. The projected corn price is up 24 cents from the expected season average this year, and the soybean price is down five cents. At these prices, neither crop would receive a counter-cyclical payment.



Drought Index from National Weather Service

The National Weather Service's latest assessment of drought conditions and projections for July are shown in the map below. Some improvement is projected in conditions early in the period in Missouri, southwestern Iowa, and eastern parts of Kansas, Oklahoma, and Texas. In the last three months, each updating of this map has shown gradual easing of drought conditions. The map will be updated again in a few days and likely will show a similar pattern.

Robert Wisner