

# Here's THE Premium!

**Being the right breed helps calves top the market.**

Story by  
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Angus calves and feeders continue to command an \$11-\$14/head premium over other cattle of similar size and condition. That's according to an expanding database on sales of some 46,000 cattle in 1,844 lots at 10 auction markets across the United States.

Market managers in California, Iowa, Kansas, Kentucky, Montana, Nebraska, Oklahoma, South Dakota and Wyoming cooperate with the Certified Angus Beef LLC (CAB) Industry Information Division in the long-term relative-value study "Here's the Premium."

The cooperators report breed type, sex, weight and price of Angus vs. non-Angus steers and heifers in two weight classes. They are asked to keep muscling, frame, health and other nonbreed factors constant in reporting prices for five consignments each of at least five head. Subjective judgment is involved, but the project uses the same cooperators over time, which adds stability to the data.

Spring 2000 records show a \$1.86/hundredweight (cwt.) advantage for steers of known Angus genetics weighing 650-750 pounds (lb.), compared to steers representative of other breed types sold in auctions from February to April in 333 lots. For heifers, the difference was \$1.66/cwt. on 337 lots.

The project also tracks values of lighter, 450- to 550-lb. calves in the fall. The added value for Angus steer and heifer calves in fall 1999 was \$2.74/cwt.

and \$2.19/cwt., respectively. The markets for this weight class will be revisited in the coming months.

Kansas State University agricultural economist Kevin Dhuyvetter serves as analyst for the project. "The premium per hundredweight for Angus cattle changes a little with weight," he notes. "And this spring's Angus premiums were a little lower on steers but a little higher on heifers, yet overall in-line with last spring.

"An interesting point is that the per-head, added dollars for Angus remain fairly steady," Dhuyvetter says. "Premiums per head in spring 2000 are similar to those in spring 1999 (\$2.11/cwt. on steers and \$1.51/cwt. on heifers), even though the market has increased by more than \$10 per hundredweight on 700-pound calves."

What does it mean?

"This suggests that cattle feeders buying Angus cattle are willing to pay a steady \$11 to \$15 per head more for Angus over a wide weight range — presumably because they expect this higher value on the carcass end — even though the market per hundredweight varies considerably," Dhuyvetter says.

That stable premium for Angus calves and feeders is confirmed by an analysis of summer and fall 1999 Superior Video Auction results (see "Angus Adds Value").

Although the auction points are spread across the country, it is difficult to make accurate regional value judgments for several reasons, Dhuyvetter explains. "An Angus steer is different in every state, as is

the 'other' steer it is compared to. Still, there are some consistent patterns for a few states," he says.

California and Kentucky prices have been significantly below those of the Iowa base every time since spring 1999. Prices in Kansas and Montana also have been slightly, but consistently, lower than those in Iowa; and South Dakota prices have been similar to Iowa, Dhuyvetter says. The Corn Belt continues to express strong demand for cattle due to the abundant harvests, while drought has de-

**Table 2: Parameter estimates from Iowa steer base\***

Variable	Parameter estimate
California	-4.62
Kansas	-1.14
Kentucky	-2.40
Montana	-1.39
Nebraska	0.05
Oklahoma	-1.75
South Dakota	0.13
Wyoming	-0.85
Other steer	-1.86
Angus heifer	-153.06
Other heifer	-154.72
Other vs. Angus heifer	-1.66
February	-0.99
April	1.93

The base animal is an Angus steer marketed in Iowa during the month of March. The different state-parameter estimates and the estimates for "other steer," "Angus heifer," "other heifer," "February" and "April" represent the difference in price relative to the base animal. For example, an "other steer" in Kansas would be expected to receive \$3/cwt. less (1.86 + 1.14) than an Angus steer in Iowa, all else equal (March, weight, lot size). The difference between an "Angus heifer" and an "other heifer" is equal to \$1.66/cwt. (-153.06 less - 154.72).

The difference between a steer and a heifer is dependent on the weight of the animals. For example, the difference between an Angus steer and an Angus heifer at 650 lb. is about \$8.30/cwt., but at 750 lb. the difference is only about \$6/cwt. Similarly, the difference between an "other steer" and an "other heifer" at 650 lb. is slightly over \$8/cwt. but only about \$5.75/cwt. at 750 lb.

**Table 1: Summary of prices (\$/cwt.) by sex and by breed for March auction sales**

Variable	No. head	Mean	SD <sup>a</sup>	Min.	Max.
"Other" heifer price	170	81.56	3.69	69.00	91.00
Angus heifer price	167	83.65	3.99	74.50	94.75
"Other" steer price	171	88.09	4.83	78.50	119.50
Angus steer price	162	90.22	5.11	79.75	108.75
Heifer price	337	82.59	3.98	69.00	94.75
Steer price	333	89.12	5.07	78.50	119.50
"Other" price	341	84.83	5.40	69.00	119.50
Angus price	329	86.89	5.63	74.50	108.75

<sup>a</sup>Standard deviation.

pressed some markets.

Nobody can say whether these regional differences are significant or the results of other variables, he adds. Whether or not top-reputation cattle — Angus or non-Angus — sell at a particular auction will affect prices available for comparison, for example. Notice the extreme top in this data set was paid for non-Angus steers, contrary to the overall pattern.

The minimum prices were slightly lower for non-Angus steers and heifers, more so for the heifers, and the Angus heifers also were slightly higher at the top end. This study will track the relationships through changes in the overall cattle-inventory cycle.

An early peek at regional prices comparing steers to heifers has the Angus steer premium highest in Kansas and Montana. Angus heifers may command a slightly higher premium in Wyoming and Montana than at other auction points in the study. More observations over time and at multiple points per region would add weight to these possible trends.

Sale-price premiums have been documented for other factors, such as lot size, information on background and health program. Since these tend to be additive premiums, a producer stands to add substantial dollars to a calf crop by following several other strategies in addition to using quality Angus genetics.



**Editor's Note:** Steve Suther is the director of industry information for Certified Angus Beef LLC.

**Table 3: Total number of steers vs. heifers and Angus vs. "other," by month**

	Feb.	March	April	Total
Steers	1,464	3,241	3,736	8,441
Heifers	1,735	3,329	3,067	8,131
Total	3,199	6,570	6,803	16,572
Angus	1,163	3,197	3,632	7,992
Other	2,036	3,373	3,171	8,580
Total	3,199	6,570	6,803	16,572

Note: There were 337 "pens" of heifers vs. 333 "pens" of steers and 329 "pens" of Angus vs. 341 "pens" of Other.

**Table 4: General market comparison of spring 2000 data to spring 1999**

	Lots	Head	Price	Weight
Spring 1999				
Steers	271	6,518	\$74.47	696
Heifers	266	5,926	\$69.79	694
Total	537	12,444	\$72.15	695
Spring 2000				
Steers	333	8,131	\$89.12	700
Heifers	337	8,441	\$82.59	694
Total	670	16,572	\$85.84	697

## INSIGHT:

# Angus adds value

*Angus calves and feeder cattle brought a range of \$1.42 to \$5.58/hundredweight (cwt.) more than other breed types in 34 auctions from June to November 1999, according to two reports commissioned by Pfizer Inc. to quantify vaccination-program value.*

*Mike King, a research associate at Colorado State University, analyzed the data on nine Superior Livestock video auctions and 25 sales at seven Northern Plains live-cattle auctions. Nearly 275,000 cattle in 2,280 lots sold by video, and slightly less than 72,000 head in 2,383 lots sold at conventional auction markets.*

*Calves in the nationwide video auctions that had received "Vac 45" preconditioning brought a \$3.33/cwt. premium over unvaccinated, unweaned calves, the data show. Vac 45 refers to calves that have been weaned at least 45 days and have received initial and booster shots of four-way respiratory viral, pasteurella and clostridial vaccines.*

*In the Northern Plains data, a premium of \$2/cwt. was paid for calves of unknown weaned status receiving four-way and pasteurella prior to sale, compared to unvaccinated calves. Those auctions took place in October and November 1999 in Nebraska, South Dakota and Wyoming.*

*The Superior Livestock project always has tracked breed type, but King added the more specific breakouts of "primarily Angus" and "black, black-white face" last year.*

*"I'd be looking at the data and see a set of calves or feeders bringing \$2 to \$5 per hundredweight more than average, and they'd be Angus cattle," he recalls. "I couldn't account for all the other variables just looking at the breed type. But when I analyzed the data and did account for everything possible, that premium was real."*

*Trained veterinarian observers recorded data for the Northern Plains auctions that included lot size, sex, base weight and vaccination program in addition to breed type. The Superior Livestock Auction analysis tied a final price to the extensive data that is required for each consignment. Besides variables recorded at the live auctions, Superior consignments included weaned status and such criteria as weight variation within the lot, implant program and days from sale to delivery.*

*King says he is confident that all cattle classified as "primarily Angus" are exactly that, based on description. That's because he did not include cattle in that category without a cross-reference that included use of the words black and Angus. Seven consignments were first categorized as "black, black-white face" because King could not be sure of the level of Angus influence. However, analysis showed similar mean prices to "primarily Angus," so the groups were combined.*

*An Angus influence could be inferred in many of the cattle, but that was not enough to rise above "English, English cross" or "English-Continental cross." King notes, "I'm pretty conservative and don't put cattle into a category unless I feel sure they belong there."*

*Angus calves may not top every sale. "Lots of calves in any of the breed-type categories have topped one sale or another," King says. "Although I don't know the reason, I believe it may be due to the reputation of the owner and his cattle. The reason we do statistical analysis is to have the computer determine the real effect of each individual factor by adjusting for all the factors in the same model."*

*"Even though one or a few lots of calves of a particular breed may have a higher price than we would expect, the model gives us an adjusted mean price for each factor [including breed type], that we assume with some degree of confidence [95%] to be a real effect," King explains.*

*Pfizer has funded research and analysis of the factors that add value to calves at auction since 1995, King says, and it has shown a consistent premium for preconditioning. "When you put the premium for the right vaccination and weaning program on top of having the right genetic type for the market, it adds up," he says.*

*[For related tables, see next page.]*

**Factors affecting the sale price of beef calves sold in Northern Plains\* livestock auction markets in fall 1999**

Factor	No. of lots	Least squares means, lot price	Regression coefficient	P value
<i>Calf sex</i>				0.0001
Steers	1,410	93.76±0.33 <sup>c</sup>	7.72	
Heifers	973	86.04±0.33 <sup>d</sup>	0.00	
<i>Breed</i>				0.0001
English X	214	90.07±0.38 <sup>c</sup>	3.56	
English-Continental X	489	90.09±0.34 <sup>c</sup>	3.58	
Angus, Blacks, BWF	1,445	92.09±0.31 <sup>d</sup>	5.58	
Charolais, Charolais X	174	90.74±0.40 <sup>c</sup>	4.23	
Straightbred, nonblack English	61	86.51±0.52 <sup>e</sup>	0.00	
<i>Vaccination program</i>				0.0001
4-way virus – no pasteurella	559	90.10±0.34 <sup>c</sup>	1.11	
4-way virus + pasteurella	882	90.98±0.33 <sup>d</sup>	2.00	
Calves "had all their shots"	121	89.52±0.44 <sup>c,e</sup>	0.54	
No 4-way virus- no pasteurella	821	88.99±0.34 <sup>e</sup>	0.00	
<i>Lot size</i>	2,383		0.04	0.0001
<i>Weight</i>	2,383		-0.07	0.0001
<i>Weight (quadratic)</i>	2,383		0.0001	0.0001

<sup>a</sup> Data were obtained from seven livestock markets in Nebraska, South Dakota and Wyoming. The model was adjusted for the random effect of sale.

<sup>b</sup> Least squares mean of sale price ± the standard error.

<sup>c, d, e.</sup> Values within a factor without a common superscript differ (P<0.05)

<sup>f</sup> In order to prevent collinearity between the linear and quadratic base-weight terms, the base weight of each lot was centered on zero by subtracting the mean base weight of all the lots (515.3 lb.) from the base weight of each lot.

**The effect of breed description on sale price of beef calves in the nine Superior Livestock auctions, 1999**

Breed description	No. of lots	Least squares mean of sale price (\$/cwt.)	Regression coefficient
English, English cross	253	84.56 <sup>c</sup>	-1.42
English-Continental cross	1,200	84.30 <sup>c,d</sup>	-1.68
Non-black with ear	431	82.10 <sup>b</sup>	-3.88
Black with ear	48	83.15 <sup>b,d</sup>	-2.83
Angus black, BWF	348	85.98 <sup>a</sup>	0.00

<sup>a,b,c,d</sup> Values without a common superscript differ (P<0.05)