Finish Weights Affect Feedlot Value

Finish weights affect how your genetics dollar up in the feedlot.

by ***American Angus Association Staff***

Every Angus breeder should have a good understanding of cattle-feeding economics. Breeders who market bulls to commercial cattlemen are providing important genetic inputs for the production of our industry's feedlot-finished steers and heifers. There is, of course, only one generation between the bulls you sell and the feeder calves your customer sends into the beef supply chain.

Other than heifer replacements, your customer's calf crop is destined for the feedlot — heading into the high-energy-diet world of fed-beef production — all while carrying 50% (or even more) of *your* genetics.

As you consider how well your genetics perform in a feedlot, make sure you've thought about the size and weight the offspring of your bulls will be when they are ready for harvest. Will the steers weigh 1,200 pounds (lb.) at a Choice, Yield Grade (YG) 3 end point? Or can they grow fast and efficiently to 1,400 lb.?

These are worthwhile questions because cattle-feeding economics are greatly affected by finish weights. Up to 1,450 lb. or so, heavier-finishing cattle are generally more desirable in the feedlot, as spelled out by the following real-world comparison of two steers with different final weights.

Steer A vs. Steer B

Table 1 follows Steer A and Steer B through a typical finishing phase. Both steers are placed on feed weighing 800 lb. at an assumed cost of $105 per hundredweight (cwt.). Steer A is a genetically more powerful, growthy-type animal that finishes at 1,400 lb. after 168 days on feed. Steer B has less growth and size potential in his genes. By 1,250 lb. and 150 days on feed, this steer must be sold or he'll get too fat and would be subject to yield grade discounts if marketed on a grid.

The main difference between the two steers is that they reach a Choice, YG 3 end point at live weights that are 150 lb. apart (1,400 lb. vs. 1,250 lb.). Steer A also gains faster and more efficiently than Steer B, which further enhances his value over the lighter-finishing steer.

We used actual feedlot performance data in this comparison for the average daily gain (ADG) and feed conversion (F/G) rates on steers placed in a feedlot weighing 800 lb. that finish at the different weight end points. Such real-world data consistently show a sizable feeding performance advantage for heavier-finishing steers, including higher daily gains, less feed required per pound of gain (better feed efficiency) and a lower overall cost of gain.

Cattle feeders know that better-performing cattle grow efficiently to heavier final weights, so their rate-of-gain and feed conversion advantages compared to lighter-finishing steers are part of the package.

Table 1: Finish weight affects cattle-feeding returns

Assume $105 per cwt. is paid for both steers:	Steer A	Steer B
Placement weight in feedlot	800	800
Cost per head, $ at $105 per cwt.	840	840
Finish weight, lb.	1,400	1,250
Carcass weight, lb.	896	800
Average daily gain*	3.58	3.00
Feed conversion* (DM basis)	5.88	6.30
Days on feed	168	150
Feedlot cost of gain, $ per cwt.	72.80	77.00
Total gain in feedlot, lb.	600	450
Total $ spent on gain in feedlot, $	437	347
Breakeven price of finished steer, $ per cwt.	93.68	97.41
Sale price of finished steer, $ per cwt.	95	95
Value of finished steer, $ per head[a]	1,330	1,188
Interest cost, $ per head	35	31
Total $ invested per head	$1,312	$1,218
Profit per head	$18	$(30)
Return on investment[b]	3.1%	–6.0%

[a]Actual feedlot performance based on large head counts.

[b]After adjusting for the difference in time on feed, Steer A generates a significantly higher return on investment (ROI). These differences make Steer A worth significantly more as a feeder animal.

Looking at the bottom line

Cost-of-gain differences are very important to the cattle feeder's bottom line, especially in today's environment of high feed costs. Some might mistakenly believe that a smaller-framed, quicker-finishing steer is more desirable as feed costs rise. That is *not* the case. It's the more efficiently growing, heavier-finishing steer that actually earns a lower cost per pound of gain. Steer A outdoes Steer B in cost of gain by $4.20 per cwt. ($72.80 vs. $77.00), based on a feedlot ration cost of $200 per ton on a dry-matter (DM) basis.

To a feedyard manager these differences have measurable monetary ramifications. Even after accounting for his longer days on feed, Steer A generates a higher return on investment (ROI). Both steers are sold for $95 per cwt. in this example, and since they both initially cost $105 per cwt., Steer A nets a profit of $18, while Steer B loses $30.

This means the two steers had different values at the time they were placed on feed. The heavier-finishing steer is actually worth a whopping $48 more ($6 more per cwt. at 800 lb.) than his lower-performing, lighter-weight counterpart. If the cattle feeder who bought both steers could precisely project their performance and finish weights, he would definitely bid less for the lighter-finishing steer.

The same can be said for groups of feeder steers that, because of their genetics, will eventually be marketed out of the feedlot at different final weights. If a cattle feeder knows one group of steers can be fed to only 1,200-1,250 lb. before becoming too fat, he will pull back his bid compared to another group with the horsepower to efficiently reach 1,400-1,450 lb.

An important axiom for the feedlot is this: Feeder cattle that are genetically destined to finish at below-average weights *must* be discounted at the time they are purchased. They simply are not worth as much as cattle that finish at average or above-average weights. That's why you won't ever hear a cattle feeder say he wants to buy and feed small-framed cattle.

Keeping a balanced perspective

We've justifiably extolled the virtues of feedlot cattle that can efficiently reach reasonably heavy finish weights. However, this discussion would not be complete without recognition that there comes a point when *big* is big enough.

Steers that finish at 1,500 lb. or more are really too big for what the industry wants today. A 1,500-lb. steer dressing at 64% produces a 960-lb. carcass. Many grids include a heavy-weight discount starting at 950 lb., and the dock such carcasses take is severe — usually $15-$25 per cwt.

With that in mind, many Angus seedstock producers will want to target their genetics toward steers that finish at 1,400 lb. or even a little heavier. But nature's ever-present bell curve reminds us all to be careful in pushing our target too close to the upper weight limit of industry grids.