



CATTLE SENSE

Information that makes sense helping you make cents

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/// What's In It For Me?

It's new! It's exciting! It's written up in all the ag magazines and beef e-newsletters: [*Published research / field demonstrations / personal experience*] give evidence of improved [*growth / reproduction / health / value*]. It's the wave of the future!

We see variations of this scenario played out on a regular basis. And cattle producers and consultants do their best to absorb and analyze the stream of information, always on the look-out for new management tools that are effective, practical, and that offer an acceptable rate of return.

This final point – cost-effectiveness – isn't always easy to determine. Supporting arguments for the use of products or changes in management practices are often presented in terms of percent improvement of some key measure(s) of production. But what does that mean to the commercial cattleman? It is critical to be able to translate these numbers into a dollar impact.

% Increase in Weaning Weights

This one is straightforward and easy to calculate. Simply taking the operation's current average weaning weight times 10% (.10) gives the expected increase in marketable pounds resulting from a 10% improvement in this measure. So, if a herd were currently selling calves off the cow at 500 lb, and they are expected to be worth \$1.20/lb, a 10% increase in weaning weights adds \$60 (.10 X 500 X \$1.20) per calf. Once calculated, that amount can be weighed against the expected cost of obtaining this response. Keep in mind that the expense will probably apply to every animal in the herd, while the returns only come from cows that successfully wean a calf.

% Increase in Feed Efficiency

There is a lot of attention currently focused on improving feed efficiency, as rising costs translate into greater savings potential. In the cowherd, better feed efficiency, for practical purposes, simply means using less feed to accomplish the same nutritional goals. This can be achieved with genetic selection, targeted supplementation, and/or reduced feed waste. Examples include providing supplemental protein when needed in order to enhance forage utilization, or treating forages with a liquid supplement to discourage sorting and refusals. In all cases, the level of improvement in efficiency directly represents potential reduction in feed costs (i.e., 5% better utilization = 5% less use).

A few more calculations are needed to accurately portray the value of improved feed efficiency (lb of feed per lb of gain) in growing calves and stockers. To begin, several inputs need to be identified or assumed: current, or baseline, F:G and ADG; expected level of improvement from proposed change; overall feed cost; feeder calf price per lb; and, a daily value for cost of ownership. This would be the equivalent of yardage in the feedyard – a combination of the fixed costs of depreciation, insurance and interest, and the variable costs of repairs, fuel, labor, management, etc. The following chart shows how this information would be applied, using a feed cost of \$200/ton, calf value of \$1.25/lb, and a \$0.30/day yardage charge.

IMPACT OF 10% IMPROVEMENT IN FEED EFFICIENCY							
	F:G	ADG, lb	Feed Cost / lb Gain ¹	Feed Cost / Day ²	Total Cost/ Day ³	Days to Gain 100 lb ⁴	Total Cost/ 100 lb Gain ⁵
Current	7	2	70¢	\$1.40	\$1.70	50	\$85.00
Projected, Hold feed use constant	6.25	2.24	62.5¢	\$1.40	\$1.70	45	\$76.50
Projected, Hold gains constant	6.25	2	62.5¢	\$1.25	\$1.55	50	\$77.50

¹ (Feed Cost per ton/2000) X F:G

² Feed Cost per Lb Gain X ADG

³ Feed Cost per Day + yardage

⁴ 100 ÷ ADG

⁵ Total cost/day X Days to gain

NOTE: The projected feed cost or yardage values would need to be increased relative to the current levels, if the proposed change in feeding or management would result in additional expense .

% Increase in Pregnancy Rates

We have to be careful when talking about the level of improvement in a measure that is, itself, expressed as a percentage. Is the expected change actually 10% better, or a bump of 10 percentage units? There can be a big difference between the two. Additionally, there is obviously a finite limit to yes/no measures like this (i.e., it's impossible for more than 100% of the cows to settle), and the potential value of making improvements can be practically limited by how much room exists for improvement in the first place. Caution should be used when extrapolating data between situations that have significantly different baselines.

With all that said, increasing the number of calves produced from a given set of cows can have a big impact on profitability. If current pregnancy rates are 85%, a 10% improvement would raise that to 93%. No one would argue there is clear value in getting an extra 8 pregnancies out of every 100 cows bred or exposed to the bull.

% Increase in Weaning Rates

If we carry this out to weaning time, it is pretty easy to put a dollar value on a proposed or expected level of change. The chart shows two examples. As mentioned earlier, it is important to express the increased returns per cow, so they can be compared to the costs of creating the improvement (i.e., better feed, deworming, etc.), which would be provided to every animal in the herd.

IMPACT OF IMPROVED PREGNANCY RATES		
	Ex. 1	Ex. 2
Current Pregnancy Rate	80%	90%
% Expected Improvement	10%	5%
Projected Pregnancy Rate	88%	94.5%
Increase, Percentage Units	8	4.5
Weaned Calf Value	\$600	\$600
Increased Returns Per Cow	\$48	\$27

% Increase in Digestibility

The primary value of this information is to either show a mode of action for observed improvements in the traits discussed above, or to establish justification for further investigation into potential impacts on economically important traits like these. From a producer perspective, variations in digestibility values probably aren't going to be used directly in economic analysis. However, because digestibility drives the net energy yield of a diet, an anticipated improvement in, say, hay utilization, can be accounted for when balancing a ration. In this case, the TDN or NE values assigned to the feed and entered in the computer would be increased by the expected % increase in digestibility.