

What's Your UCOP?

According to a veteran livestock economist, cow-calf profitability usually hinges on controlling unit cost of production.

Story & photo by
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Does size matter? How is the size of a cow-calf operation likely to affect its profitability? It's repeatedly reported that the industry is trending toward fewer, larger operations. Does that mean large cow herds are more profitable? No, profitability is not dependent only upon a herd-book tally.

Herds with fewer than 50 cows collectively produce an 80% share of the U.S. calf crop. Granted, some of those herds are subsidized by income from additional agricultural enterprises or their owners' off-farm occupations. But, the same can be said of some bigger cow outfits. Whether a cow-calf enterprise can stand up to economic scrutiny has little to do with its number of cows.

For big herds or small ones, profitability is largely dependent upon cost of production. It's more a matter of efficiency than size. And while some people claim large operations have an advantage, research suggests that economies of scale are not as significant for cow-calf enterprises as for many other businesses. A large cow herd isn't necessarily more efficient because of its size. However, a herd's ability to grow larger might be due to its efficiency — its low cost of production.

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North Dakota State University Professor Emeritus Harlan Hughes says he can pretty well tell if a cow-calf enterprise is profitable, judging by its unit cost of production (UCOP). Formerly an Extension economist and now an industry consultant based in Laramie, Wyo., Hughes has been advising cow-calf producers to apply the analytical power of UCOP for years. Many still do not, he laments, despite the fact that UCOP accounts for physical

production and all associated costs.

Both production efficiency and economic efficiency are measured simultaneously. Derived by dividing total herd costs by total pounds produced, UCOP is often most useful when expressed as cost per hundredweight (cwt). It's then readily comparable to income expressed in price per cwt.

UCOP also serves as a standardized index for benchmarking through comparison with data collected from Integrated Resource Management (IRM) herds.

Statistically, Hughes says, UCOP explains up to 80% of the herd-to-herd variation in profit. In his opinion, that makes it the most significant factor in determining profit for a cow-calf enterprise — more important that pounds of calf weaned per cow. And many producers equate increased production per cow with increased profitability. All too often, though, those producers aren't measuring their costs.

"It has been my observation that increased production per cow tends to come with increased costs per cow," Hughes says. "It is also my observation that as production per cow goes up, costs tend to go up exponentially, resulting in less net income per cow from the increased production. If [a producer] is not measuring costs, he thinks his net income must be going up because gross income is going up."

According to Hughes' data, there is a low correlation between gross income and net income. Among the herds he works with, the most profitable herds are not those boasting the greatest income per cow. And comparing income vs. cost, on a "per-cow" basis, doesn't tell the whole story anyway.

Calculating income, increasing profit

"Basically, cost per cow means very little. It is cost per pound of calf produced that tells the story," Hughes insists. "We have to think in terms of cost per unit of production. That becomes your breakeven cost."

In addition, Hughes says most cow-calf producers fail to figure gross annual income correctly. Most

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Shown visiting with ranchers attending the 2007 Nebraska Grazing Conference, Harlan Hughes emphasizes the role of unit cost of production, or UCOP, as an indicator of profitability.

use a number representing cash income, but Hughes says an accurate economic analysis should be based on accrual-adjusted gross income, which includes cash sales plus inventory changes.

Producers often ignore inventory changes, but they can have a significant effect — positive or negative — on the income picture. For example, one producer might increase breeding herd numbers during the business year, while another producer might reduce the size of his herd. Each herd's gross income analysis must account for the positive or negative change.

Assuming a producer uses the correct method for determining gross income, expressing it on a "per cwt." basis will make calculation of profit easier. Just subtract UCOP from gross income to determine net income per cwt. That's the profit. Most producers delight in seeing that number increase, and it will if the enterprise can be managed to reduce UCOP.

Profit also increases as a result of increased gross income, but only if UCOP declines, remains constant or does not increase proportionately more than income. Hughes says the most profitable producers usually are those who find ways to reduce UCOP.

However, some producers say economists harp long and loud about cutting costs, while overlooking opportunities producers now have to capture more value (higher

price per cwt.) by channeling their cattle through alliances or other marketing arrangements. Through focused production for a targeted market, producers might receive a premium tied to quality attributes, for example.

Suppose ranchers Jake and Hank each market 550-pound (lb.) calves. Jake's UCOP is a little bit higher, but his calves typically bring several bucks more per cwt. than Hank's calves. Can the substantial premium compensate for a higher UCOP?

Hughes has no doubt that it can and does happen. However, his data suggest that it is not a common occurrence. Variation in the market prices paid for cattle of a given weight is still small, compared to the variation in costs of producing those cattle.

Data from Northern Plains herds managed by Hughes' clients show the overall average UCOP for 2005 was \$109 per cwt. However, the low-cost one-third of those herds had an average UCOP of \$77. Representing the high-cost one-third of herds evaluated were those with an average UCOP of \$147. The range between low- and high-cost producers is \$70 per cwt., suggesting there is ample room for high-cost producers to trim production costs.

Hughes says trying to maximize returns through savvy marketing is good, but it enhances profit best when coupled with cost-control measures to lower UCOP.

But Hughes urges producers to remember that UCOP is a ratio, so another factor in lowering it is to have more pounds in the denominator. High-quality calves might bring a premium. That's great, but a high-quality herd produces more total pounds through higher reproductive rates, greater cow longevity, lower culling rates and less death loss. And, yes, higher weaning weights can help, too.

"Herd productivity," Hughes states, "is the key to lower UCOP."

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