

Value of Cow Herd Performance Gains

Brent Carpenter, April 2017

Good herd managers routinely consider strategies to improve the bottom line over the long haul. Examples range from genetic selection decisions, to shifting breeding/calving seasons, to renovating pastures. To compare among alternatives, it can be helpful to start by working from a simple estimate of gross income over time due to improved cow herd performance.

The table illustrates expected gross revenue changes with incremental improvements in commonly measured production parameters: Calf crop (CC), Weaning weight (WW), and Calf death losses (CD). “What-if” scenarios quantify the expected revenue impacts with sustained changes in productivity, given the current price outlook. No one knows for certain what cattle price levels will be over the next decade, but that does not mean intelligent estimates of prices are not useful. This analysis is based on recent price projections published by the Ag Markets and Policy group at the University of Missouri.

Changes in beef cow-herd gross revenue with incremental changes in productivity, 2017-2026.

What-if Scenario	Annual improvement per cow										Cumul. Per Cow	Cumul. 50 Cows
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026		
CC rate improves, 5 % points	\$36	\$34	\$34	\$35	\$37	\$39	\$40	\$40	\$41	\$43	\$379	\$18,974
WW improves, 50 lbs/hd	\$25	\$22	\$22	\$23	\$26	\$28	\$29	\$30	\$31	\$33	\$269	\$13,454
CD rate improves, 2% points	\$14	\$14	\$14	\$14	\$15	\$16	\$16	\$16	\$17	\$17	\$152	\$7,589
Above combined	\$77	\$72	\$71	\$74	\$79	\$84	\$86	\$89	\$91	\$95	\$819	\$40,950

So, given the assumptions in this tabulation, any practice that results in sustained improvement in the calving rate by five percentage points, say from 88% to 93%, is expected to generate additional revenue in each year. At the end of ten years, the accumulation of additional revenue is \$379 per cow, equivalent to almost \$19,000 for a 50-cow herd. There are at least two important conclusions to be drawn from the first line of the table. 1) A cow herd with consistently underperforming reproduction rates leaves a lot of money on the table—enough to make substantial investments, if needed, to correct under performance. 2) However, for 50 cows any investment with up-front costs over \$19,000 is a non-starter if the payback must come from increased calving rate alone and within the ten-year period.

Similarly, an increase of 50 pounds in weaning weight for steer and heifer calves accumulates added gross revenue of \$269 per cow after ten years, including a modest price slide adjustment for heavier calves. Reducing the calf death loss rate by two percentage points adds \$152 per cow over ten years.

This analysis uses a model herd of 50 cows with production performance parameters assumed to be typical in Missouri cow-calf budgets <http://agebb.missouri.edu/mgt/budget/index.htm>. For brevity and simplicity, this illustration does not consider everything that may be needed in a complete economic analysis, such as, discount rates, costs, etc.

For assistance with evaluating management alternatives, consult with your regional Ag Business Specialist.