

Enhancing profitability through longevity

by Alvaro Garcia

IMPROVING cow longevity has become a key component of dairy farm profitability, animal well-being, and environmental sustainability. Extending the productive lifespan of a dairy cow maximizes lifetime milk yield while reducing the need for resource-intensive replacement heifers, lowering costs, and reducing the farm's carbon footprint. At the same time, animal well-being has become central to modern livestock practices, driven by growing consumer expectations and regulatory demands.

Cow longevity reinforces the farm's social license to operate — the informal public approval vital for market access and brand reputation — by aligning with societal expectations for ethical treatment, environmental responsibility, and sustainability. In contrast, high culling rates due to preventable issues like lameness, mastitis, or reproductive failure can erode public trust and invite regulatory scrutiny.

Economic significance

The financial health of a dairy operation is closely tied to the balance between milk production and the cost associated with raising and maintaining cows. Raising a heifer to her first calving represents a significant investment, typically ranging from \$1,800 to \$2,500 per animal. Since cows usually reach their peak milk production between the third and fifth lactations, culling them before this point prevents producers from capitalizing on their most productive years. Invol-

untary culling, especially early in lactation, can result in direct losses of \$500 to \$1,000 per cow, not including the lost potential income from milk production and additional health intervention costs.

Understanding the factors that drive culling is crucial to developing strategies that improve cow longevity. A sizable portion of total involuntary culls are due to the following:

Infertility: Reproductive challenges are responsible for 23.3% of culls in the herd.

Mastitis: Compromised udder health and milk quality are a major cause of culls (18.6%).

Low production: Up to 18.3% of cows are being voluntarily culled for poor milk yield.

Lameness: Poor mobility accounts for 9.1% of culls.

Over the past few decades, the productive lifespan of U.S. dairy cows has declined, with the average herd life expectancy now falling below three lactations. This trend means many cows are culled before reaching their full production potential, limiting farm profitability while raising the costs associated with frequent herd turnover. To enhance cow longevity and, consequently, dairy profitability, producers can implement the following strategies:

Genetic selection: Prioritize breeding for traits associated with longevity, such as udder health, hoof structure, and reproductive efficiency. Consider using genomic testing to identify cows with longevity traits like high fertility and metabolic disease resistance.



HOW LONG A COW LASTS in the herd has become critical to a farm's bottom line.

Reproductive management: Implement reproductive programs that include regular monitoring, timely interventions, and the use of technologies such as estrus synchronization and artificial insemination to improve conception rates. You may monitor reproductive performance by using activity trackers to improve heat detection and reduce days open.

Mastitis control: Adopt strict milking hygiene practices, regular somatic cell count monitoring, and prompt treatment protocols to reduce the incidence of mastitis. To accomplish this, use proven pre- and postmilking teat dips and maintain milking equipment to reduce somatic cell counts.

Lameness prevention: Regular hoof care routines, comfortable flooring, and adequate nutrition help prevent lameness. Early diagnosis (3D cameras) and corresponding treatment help reduce lameness-related culls. Incorporate rubber mats in high-traffic areas and schedule regular hoof trimming.

Nutritional management: Consider balancing diets to the specific needs of cows at different production stages, focusing on adequate mineral and vitamin supplementation to support overall health.

Environmental enhancements: Ensure comfortable housing with appropriate bedding, ventilation, and space to reduce stress and promote natural behaviors.

Identify your goal

Extending the productive life of dairy cows directly enhances farm profitability, herd stability, and environmental sustainability. Each additional lactation beyond the third reduces replacement costs by up to \$1,500, and boosts lifetime milk production by as much as 20%, improving income over feed costs. By focusing on preventable culling reasons — like lameness, mastitis, and reproduction challenges — producers can maintain healthier herds while meeting growing consumer expectations for animal well-being.

The goal for every U.S. farm should be to aim for an average of no less than four to five lactations per cow to maximize profitability. Implementing initiative-taking strategies such as genetic selection, health management, improved housing, and balanced nutrition, is key to achieving this. Evaluate your current culling records — are most cows leaving the herd before their fourth lactation? If so, focus on the factors discussed to boost longevity and profitability. 🐮

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