Strategic Cull Cow Selection: A Performance-Based Approach

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Cull cow management is a vital component of profitable dairy farming in Ontario. The challenge is not just to remove unproductive animals, but to make strategic decisions about when, why, and how to do so. The goal should be to maintain animal welfare, maximize herd productivity, and ensure economic success.

Choosing your cull cows will depend on your farms current goals – what are you focused on? This could be any number of things, including production, reproduction, udder health, and more.

Production

Use your herd management software to identify cows that are consistently producing below herd average. Ensure you consider her lactation, and compare her to her peers. The following are statistics you can use.

- 305M (milk yield over 305 days)
    - Your lactation 1 group should be producing at ~80% of your mature cows[1]
- 305 ME (305 mature equivalent – adjusts for factors like age and parity)
    - Typically, your most productive lactation group should be second lactation cows, followed by first lactation cows, and finally mature cows
- Peak Milk Yield
    - 1st lactation should peak at ~75% of mature cows
    - 2nd lactation should peak at ~90% of mature cows

Using these statistics and more, your herd veterinarian can help you to identify groups that are lagging, and find out why.

Reproductive Performance

Work with your herd veterinarian and semen company to create goals for your herd, using pregnancy rate, conception rate, and insemination rate to identify areas of improvement.

The goal is to get into a high fertility cycle[2], where timely pregnancies in one lactation lead to improved reproductive performance in the next. Dairy cows that become pregnant before 130 days in milk tend to gain less body condition during the current lactation, and lose less after calving. This results in fewer health issues, greater fertility at first insemination, and a reduction in early pregnancy losses[2].

Cows that get pregnant quickly spend more of their life on your farm in stages of peak performance. On the other hand, those that fail to conceive in a timely manner tie up resources that may be better spent on a more productive, fertile animal. Estimates of cost per day open for a dairy cow range from $3 to $5 per day.

Udder Health

Cows with high somatic cell count (SCC) or chronic mastitis have reduced profitability within the herd. In addition, these animals may be carrying pathogens that are contagious, resulting in future milk losses within the herd.

Costs associated with mastitis include the cost of treatment itself, the time spent treating the animal, and the lost production due to the mastitis event. In one Canadian study, the cost of mastitis per milking cow per year was calculated to be $662.[3]

In a high performing dairy operation, culling decisions can significantly influence herd efficiency, reproductive performance, animal welfare, and profitability. Poor culling strategies can lead to overcrowding, increased disease risk, and diminished milk yields per stall. The goal of each farm should be to minimize culling as an emergency action, and make it part of a planned herd health strategy. Remember: a strategic culling strategy must be paired with good replacement planning.

Work with your veterinarian and other herd advisors to come up with a culling strategy that works for your farm. Culling, when done thoughtfully and proactively, is a sign of a well managed, profitable, and forward thinking dairy operation. By being proactive and making culling decisions with a herd strategy in mind, you can ensure your farm remains profitable and sustainable in our ever evolving industry.

1 - Van Amburgh, M. and Molano-Torres, R. Weaning.and.Post_weaning.Management.of.Calves.and.Heifers.for. Optimizing.Long_term.Productivity

2 – Fricke, P. M., Wiltbank, M. C., & Pursley, J. R. (2023). The high fertility cycle. JDS.Communications, 0(2), 127–131. https://doi.org/10.3168/jdsc.2022-0280

3 – Aghamohammadi, M., et al. (2018). Herd-Level Mastitis-Associated Costs on Canadian Dairy Farms. Frontiers.in.veterinary.science, 1, 100. https://doi.org/10.3389/fvets.2018.00100