

The Dairy Herd Value According to Reproductive Performance

- The objective of the study was to determine the value of reproductive performance under optimal replacement decisions
- Cow specific retention payoff (RPO, \$) for all the cows were calculated according to an optimization model
- Herd demographics were projected using a simulation model that responded to input reproductive performance
- Finally, combining the two previous models, the Herd Value was calculated by a weighted average of the herd demographics and their corresponding RPO

RESOURCES

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- Herd Value increased with increased reproductive performance
- There was interaction between reproductive performance and milk productivity: Higher milk productivity favored timed artificial insemination programs
- Results indicate that specific reproductive events within reproductive programs could be used to heighten the Herd Value
- There was \$77/cow per year of gain when improving the pregnancy rate from 14% to 20%.

Excerpt from: Kalantari, A. S., and V. E. Cabrera. 2012. The effect of reproductive performance on the dairy cattle herd value assessed by integrating a daily dynamic programming with a daily Markov chain model. *Journal of Dairy Science*95:6160–6170.

