330

Economic perspectives on blanket and selective dry cow therapy

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Dry cow therapy (DCT) is an efficient and widely used measure to control intramammary infections (IMI) in dairy herds. On a blanket-DCT practice (BDCT), all cows receive antibiotics at dry-off. On a selective-DCT practice (SDCT), treatments are targeted only at infected cows. Our objective was to compare the cost-effectiveness of SDCT and BDCT, considering the risk of IMI and uncertainty related to inputs and outputs of milk production.

Because a DCT practice affects both revenue and costs, a margin calculation is a useful method. We built a stochastic calculation model to show a margin for costs that are equal in both DCT policies. Data for modeling were generated by running 100,000 Monte Carlo simulations. The value of fixed variables, parameters for the distribution of stochastic variables, and probabilities for receiving DCT at dry-off or for acquiring IMI after calving were extracted from the literature and official statistics. In a sensitivity analysis, we tested effects of diverse IMI probabilities. Results indicated the annual margin per cow in both SDCT and BDCT herds.

Within a same herd size and milking system, the distribution of the margin in BDCT herds deviated from that of SDCT herds with the difference in median being €23—€29 per cow (1%) in favor of BDCT. If SDCT herds could reduce their current risk of post-calving IMI from 0.24 to 0.20 and BDCT herds would have their current risk of 0.18, an equal difference would be in favor of SDCT.

Antimicrobial resistance is a serious global concern that emphasizes non-antibiotic IMI prevention. Financial differences between SDCT and BDCT are minimal and, therefore, the focus in decision-making should be on the health status of the herd. SDCT is a competitive management practice, especially in herds succeeding to keep their IMI risk low.

Keywords: mastitis, dry cow therapy, stochastic analysis, cost-effectiveness