

Economic Evaluation of Two Reproductive Management Strategies in Alberta Dairy Herds

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A new decision support tool (<http://DairyMGT.uwex.edu/>), developed by the Universities of Wisconsin and Cornell, allows producers and consultants to evaluate the economic impact of adopting new strategies for dairy cattle reproductive management. We used that tool with data of two herds to evaluate the economic benefits of changing a timed-AI (TAI) reproductive program by an alternative program. The alternative reproductive program consisted of adopting an automated heat detection system with a fixed depreciation cost of \$ 11,800 for computer/hardware, \$ 80 per collar, and \$ 1,600/yr (Herd 1) or \$640 /yr (Herd 2) for maintenance. It was simulated plausible levels of conception rate (CR), 40, 45 and 50% and the estrus detection rate (EDR), 55 to 75% (at 5% intervals). Currently, herd 1 (500 cows) utilize a Presynch/Ovsynch and a 5-d CIDR/Ovsynch for first and subsequent inseminations, respectively, with a CR of 45% and a pregnancy loss (PL) of 14.0%. Herd 2 (180 cows) utilize a Presynch/Ovsynch and a 7-d Ovsynch for first and subsequent inseminations, respectively. Conception rate for herd 2 was set at 42 and 30% for first and subsequent inseminations, respectively, and PL at 14.0%. The inter-breeding interval for both herds was 42 days. For the current TAI reproductive management program, the economic analyses estimated a net profit of \$7,357 and \$7,325 cow/yr for herd 1 and 2, respectively. The net profit generated by the alternative reproductive program that depended upon EDR and CR ranged from \$ 7,272 (55% EDR – 40% CR) to 7,395 (75% EDR – 50% CR) per cow/yr in herd 1 and from \$ 7,284 (55% EDR – 40% CR) to 7,376 (75% EDR – 50% CR) in herd 2. The breakeven EDR and CR were 65 and 50% or 75 and 45% for herd 1, whereas, the breakeven EDR and CR were 55 and 50% or 70 and 40% for herd 2. In other words, the alternative reproductive management program should achieve pregnancy rates in the order of 32% for herd 1 and 28% for herd 2 to economically justify its purchase.

Take Home Message: As demonstrated in our analysis, the economic impact of adopting a new reproductive management program could be substantially different, mainly depending on current and expected reproductive performance.

Tools to calculate the economic value of changing or modifying the current reproductive management program for a specific dairy herd are available so dairy industry decision makers should take advantage of them.

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