

Business Analysis of Visual Observation, IRT and Ovsynch as Reproduction Strategies in Alberta Dairies

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Estrus detection (ER) is an important component in decision-making in Alberta dairies. The objective of this project was to compare the business analysis on traditional breeding strategies (Visual Observation; VO, and Ovsynch; OVS), and infrared thermography (IRT) at different ER and pregnancy rates (PR). The current study used the average costs of dairy production activities, inventories, capital purchases, milk sales and feed purchases from the *Economics of Milk Production in Alberta 2017 - 2009*. The costs associated with Breeding, Feeding per AI service, Operation costs, Return to equity and Culling risk (%) per ER (30 – 100%) and PR (PR per parity group; 1-2, 3-4, and >4) determined the financial benefit of the breeding strategies. Breeding cost results (CAD/cow) showed a higher cost in OVS (\$138.99) compared to VO (\$115.78), and IRT (\$118.28). Pregnancy rate costs were affected by Breeding cost, however, the ER had significant effect on PR expense for each breeding strategy, VO (ER 30%; 205.93, ER 60%; 167.36, & ER 100%; 129.39 CAD/cow), OVS (ER 30%; 247.21, ER 60%; 200.90, & ER 100%; 155.33 CAD/cow), and IRT (ER 30%; 210.38, ER 60%; 170.97, & ER 100%; 132.19 CAD/cow). The Total production cost and Return to equity varied depending on Conception per AI service (1st - 4th), VO (1st; 2439.13, 2nd; 2672.17, 3rd; 3129, & 4th; 3129.13 CAD/cow), OVS (1st; 2439.13, 2nd; 2621.91, 3rd; 2804.69, & 4th; 2987.47 CAD/cow), and IRT (1st; 2439.13, 2nd; 2672.17, 3rd; 3129, & 4th; 3129.13 CAD/cow). Culling risk cutoff per ER varied depending Parity, ER 50% for Parity 1-2 (3.51%), 60 % for Parity 3 – 4 (0.67%) and 80% for Parity > 4 (4.22%) despite breeding strategy. **Take Home Messages:** Understanding the financial impact of estrus detection rates using different breeding strategies provides dairy farmers with decision-making information.