

# Efficacy of Daily Rectal Temperature Monitoring vs. Visual Observation of Dairy Cows for Detection of Post-Partum Disease

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## Introduction:

Post-parturient cows are highly susceptible to disease, which may result in decreased milk production, death, and culling. Early disease detection increases cure rates and minimizes production losses. Rectal temperature monitoring (RTM) for the first 10 days in milk (DIM) has been advocated as a critical management tool, however, there are no studies evaluating the efficacy of this labor-intensive program. This study compares the efficacy of visual observation (VO) to RTM for detection post-partum disease.

## Materials and Methods:

Rectal temperature and milk production of 208 Holstein cows was recorded for the first 10 and 30 days in milk (DIM) respectively. Cows with temperatures >103.0°F (FEVER) were further examined for metritis. Health events (HEVNT) diagnosed by dairy staff using VO, calving ease, 5-25 DIM milk production (5-25dMLK) and first service conception rate (CR1) were also recorded. Chi-squared analysis was used to evaluate % cows with FEVER and CR1. ANOVA was used to evaluate differences in milk production.

% Cows with FEVER by Calving Ease

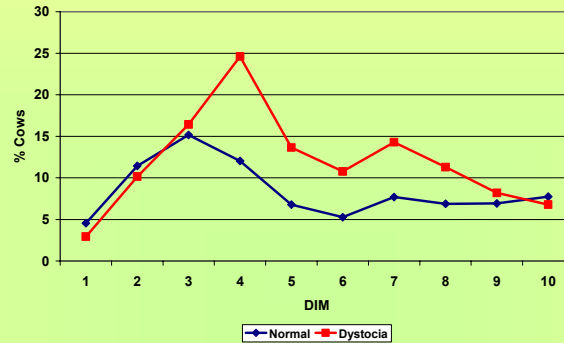


Figure 1: This graph shows a steady increase in the % of cows exhibiting a fever in both calving ease score 1 and 2+ cows. Fevers peaked in Ease 1 cows at 3 DIM, vs. 4 DIM for Ease 2+ cows. Nearly 25% of Ease 2+ cows had a Fever at 4 DIM.

Average Daily Milk Production by Fever and Health Status

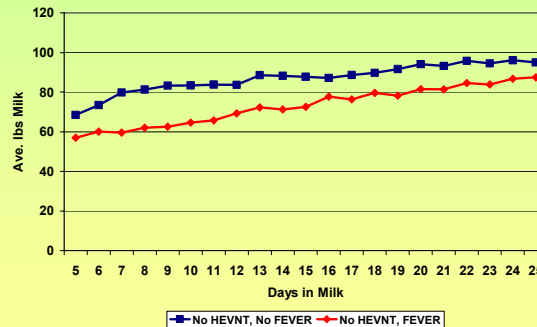


Figure 3: Average milk production over 5-25 DIM for cows without a HEVNT (diagnosed by VO), with and without a FEVER. Cows with No HEVNT and a FEVER produced 243 lbs less milk than those with No HEVNT and No FEVER.

## Results:

During the first 10 DIM, 39% of cows had a fever. More cows with dystocia had FEVER (50%) than those without (34%) (P=0.0238). Of cows with dystocia, % cows with fever peaked (25%) at 4 DIM, vs. cows without dystocia that peaked at 15% by 3 DIM (Figure 1). Of the 79 cows with FEVER, 55% had metritis. Thirty-six cows (29%) of cows with FEVER had no HEVNT and half of them had MET undetected by VO. Cows still present in the herd at 30 DIM with FEVER and no HEVNT produced 243 lbs less milk than those without FEVER or HEVNT (p=0.0983) (Figure 3). Furthermore, of cows with no HEVNT those with FEVER and a discharge consistent with metritis had a lower CR1 (26%) than those without FEVER or discharge (35%, p=0.0372).

## Conclusion:

These results suggest FEVER identified by RTM is common associated with metritis. Therefore, disease undetected by VO but identified by RTM may result in significant economic loss through decreased milk production and reproductive efficiency. Rectal temperature monitoring was more effective than visual observation for detection of post-partum disease in dairy cows and could significantly improve the health and productivity of post-partum dairy cows.