

cell scores >4 was not significantly different between premium categories (9.4% for D, 7.2% for SP and 7.4% for LP. Overall rate of clinical mastitis (no. cases per month divided by the number of lactating cows) was 6.75% and did not vary among premium categories.

Action to lower SCC to 150,000 would result in considerable additional monthly income for herds in all premium categories. In this example, income from herd D would be up \$2,234, herd SP would have generated an

additional \$1,452 and herd LP would be up \$1,139. The majority of herds (58%) did not routinely record clinical mastitis and 15% of the herd managers had never performed a bulk-tank culture. Some 33% of the herds had never had a milking system analysis performed during milking. In this survey of herds recruited by consultants and veterinarians only 40% reported that they routinely consulted veterinarians regarding milk quality.

^a 95% confidence interval: 16 cents – 30 cents

Comparison of an Experimental Pulsation System with Conventional Pulsation

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Introduction

This study examined whether cows milked with a “copulsation” milking machine differed from cows milked with a standard pulsation milking unit in measures of udder health, teat end condition, and milk flow rate. Study design was a one-year trial with a completely randomized block crossover. Background on the “copulsation” method will be provided.

Materials and Methods

Holstein cattle housed in a tie-stall barn and milked with an around-the-barn high-line milking system are maintained for teaching and research purposes at the Cornell University College of Veterinary Medicine. From the herd, 30 cows were selected that were considered most likely to remain in the herd for the next year, and that were suitable for pair blocking. They were blocked into 15 pairs of contemporaries based on lactation and production information. Each pair was randomly divided, with one cow assigned to a conventional pulsation group and the other cow assigned to the experimental pulsation group. After 6 months, all cows were reversed between milking groups.

Once each month for one year, quarter milk samples were collected from all cows enrolled in the study. Culture and Somatic cell count (SCC) tests were performed. IMI were defined as new or chronic (case definitions will be provided). Teat ends were scored as good, intermediate, or poor using objective criteria (details will be provided). Using milk meters, mean milk flow rate per minute was calculated. Clinical mastitis cases were recorded, cultured and had SCC tested. Milking system performance measurements were made monthly (details of testing will be provided).

Depending on whether continuous or categorical variables, ANOVA or Chi-square testing of significant differences was used.

Results and Conclusions

“Copulsation” milked cows did not differ from conventionally milked cows in SCC, milk flow rate, proportion of quarters with new IMI, chronic IMI and negative culture results, or proportion of teat ends scored as good, intermediate or poor. There was no evidence of difference in performance between “copulsation” and conventional pulsation milking.