

326 The lifetime impact of a clinical mastitis case during the first 100 lactation days in first lactation. H. Delgado*, D. Liang, and V. Cabrera, *University of Wisconsin-Madison, Madison, WI.*

The objectives were to identify lifetime differences in reproduction parameters, genetic traits, and production variables between cows affected by clinical mastitis during the first 100 lactation d in first lactation (1st100dCM) and cows not affected (control). A data warehouse was developed with data extracted from production, health, and genetic software currently in use in 3 herds in Wisconsin. After verifying the availability of complete records for production, reproduction, and health from cows removed of their herds between 2012 and 2017, data from 7,885 cows that included 482 cases of 1st100dCM were used for the analysis. There were no significant differences for age at first calving and number of breedings between animals affected with 1st100dCM and the control group. From the selected animals, 2,021 had records for Genetic Net Merit (GNM) and 217 of these animals were cases of 1st100dCM. There were no significant differences in GNM between cows affected with 1st100dCM and the control group. Using Proc Lifetest (SAS 9.4) for survival analysis, it was found that animals affected with 1st100dCM lived shorter lives ($1,413 \text{ d} \pm 25$) than the control group ($1,608 \text{ d} \pm 17$). To test if there were significant variations in production, a mixed model was used including the random effects of the herd and of the year of culling. Least squares means for Lifetime milk and fat were $20,161 \text{ kg} \pm 889$ and $820 \text{ kg} \pm 33$, respectively, for cows affected by 1st100dCM, whereas these values were $28,780 \text{ kg} \pm 256$ and $1065 \text{ kg} \pm 21$, for cows not affected (control group). These results indicate significant differences of $6,803 \pm 924$ ($P < 0.0001$) for milk and 172 ± 40 ($P < 0.0003$) for fat between the 1st100dCM and the control group in benefit of the control. These findings are useful for the construction of benchmarks and decision support systems to help farmers and stakeholders identify the long-term impact of 1st100dCM. With the inclusion of new herds and data sources it is expected in the future to identify factors that have an effect on first lactation heifers to present 1st100dCM.

Key Words: data integration, lifetime management, decision making