

Descriptive Epidemiology of Adult Dairy Cow Mortalities

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Mortality rates for adult dairy cows have been increasing over the past couple of decades and are now between 4 and 12% at the state level. The objective of this study was to determine the cause of death of adult dairy cattle on a modern dairy farm and to identify risk factors associated with mortality. Adult mortalities from March 1, 2005 to January 31, 2006 on a 1400 cow dairy were examined by necropsy either in the field or at the Colorado State Veterinary Diagnostic Laboratory. Gross necropsy findings and histology were used to determine the cause of death. Previous health and production records were obtained and evaluated for every necropsied cow. Producer assigned cause of death was compared with necropsy findings. Serum was collected from enrolled fresh cows at 3-5 DIM and biochemistry panels were run on 10 cows that died within 10 days postpartum and 10 surviving herd mates matched by lactation and calving date. Of 80 cows that died, 69 were necropsied. Thirty percent of deaths were in first lactation animals and 46% of all of the deaths occurred within the first 30 days postpartum. Deaths were attributed to musculoskeletal injury (20%), digestive disorders (14%), and uterine disorders (11%). Miscellaneous health problems accounted for 21% of the mortalities, including such conditions as abdominal hemorrhage (non-uterine artery related), arterial thrombosis, and lymphoma. In 30% of the cases, the producer's reasons for death were incorrect when compared to necropsy findings. Of all the mortalities, 28% of the cases were reported as an unknown cause by the producer, whereas 6% were unknown after necropsy. A significantly larger proportion of cows that died had elevated creatinine kinase and aspartate aminotransferase, suggesting muscle damage, compared to cows that remained in the herd. Results of this preliminary study suggest routine necropsy provides information about the causes of dairy cow mortality that is currently unavailable for making informed management changes. Many deaths are attributable to disease processes that could be minimized or avoided through directed management interventions, especially during the transition period.