Research Summaries

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The Survivability of Twins From Pregnancy Diagnosis to Calving and the Effects Twin Pregnancies Have on Milk Production, Culling, and Gestation Length in Holstein Dairy Cattle

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It is a common belief among dairymen and practitioners that the abortion rate is higher in cows with twin pregnancies than with single pregnancies. In this prospective study, 5493 cows on 14 California dairies were followed from pregnancy diagnosis to subsequent abortion or calving. There were 196 bicornual (3.57%) and 74 unicornual (1.35%) twins diagnosed. The incidence of twins was independent of days open, but was not independent of parity or days pregnant at diagnosis. Cows with unicornual twin pregnancies had higher peak milk production than cows diagnosed with single pregnancies, and when stratified by parity, this difference was maintained in second and greater lactations. However when stratifed by dairy, the difference was not significant between cows diagnosed with singles and cows diagnosed with twins. First lactation cows diagnosed with bicornual twin pregnancies had a reduced 305 day mature equivalent milk production in comparison to those diagnosed with single pregnancies.

The abortion rate and abortion density for cows diagnosed with twins were 2.5-3 times higher than for cows diagnosed with singles. The stillbirth rate for cows calving with twins was significantly higher than those calving with singles. The difference in fetal survival resulted in 45% more viable heifers per pregnancy among cows diagnosed with singles in comparison to cows diagnosed with twins. Diagnosis of twins, not followed by abortion, did not influence the cull rate of cows in the herd. The average gestation length of cows diagnosed with twins that did not abort before drying was 6-8 days shorter than cows diagnosed with singles. Irrespective of the classification at pregnancy examination, the average gestation lengths in cows actually giving birth to twins were 5 days shorter than cows giving birth to singles.

The study results suggest that the optimal time for diagnosis of twins is at 51-60 days post-breeding and that older cows are more likely to be diagnosed with twins than younger cows. Data also suggest an association between peak milk production and the incidence of twins. Furthermore the results indicate that the proper management of cows carrying twins should include drying 7 days earlier than cows carrying singles. The survival data should help provide a better understanding of the economic impact of twins in dairy cattle and aid in development of an economic decision analysis to determine the best disposition of twin pregnancies.

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