Supplemental Figures for: Case studies investigating the epidemiology of hyperketonemia in grazing dairy cows in early lactation: Incidence, prevalence, and time to resolution of hyperketonemia

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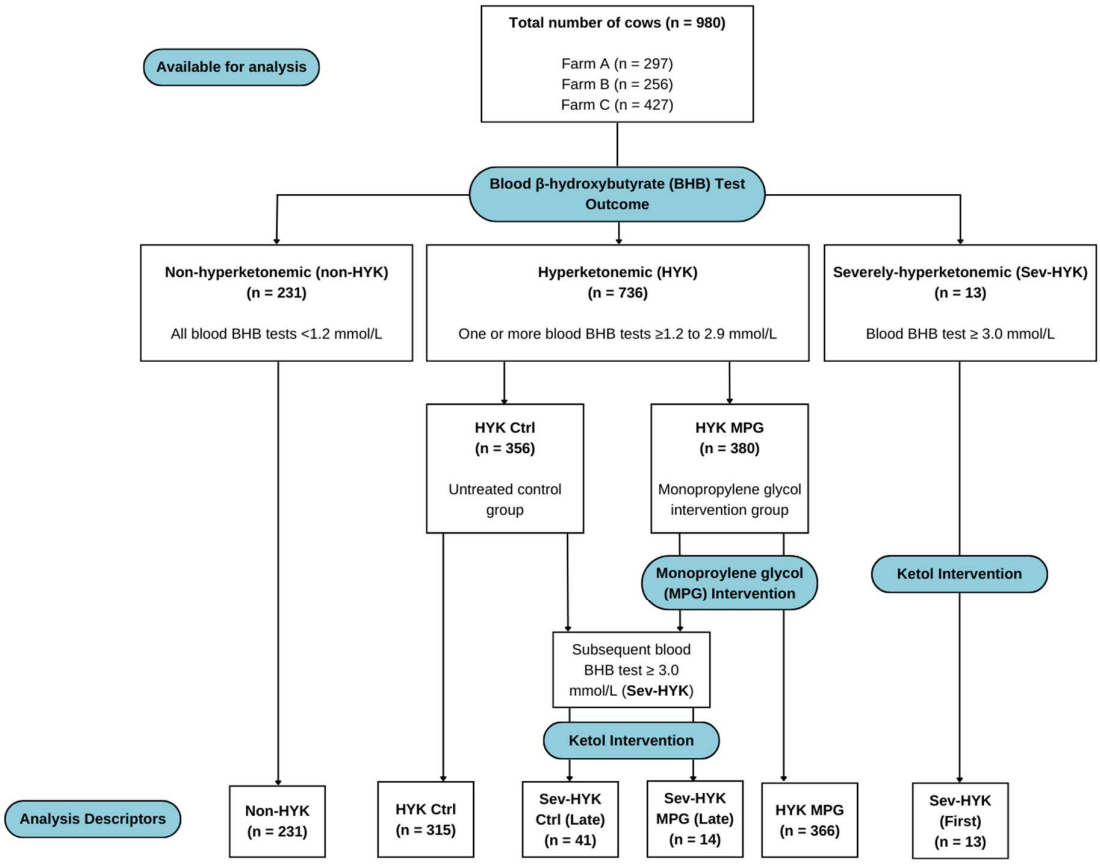
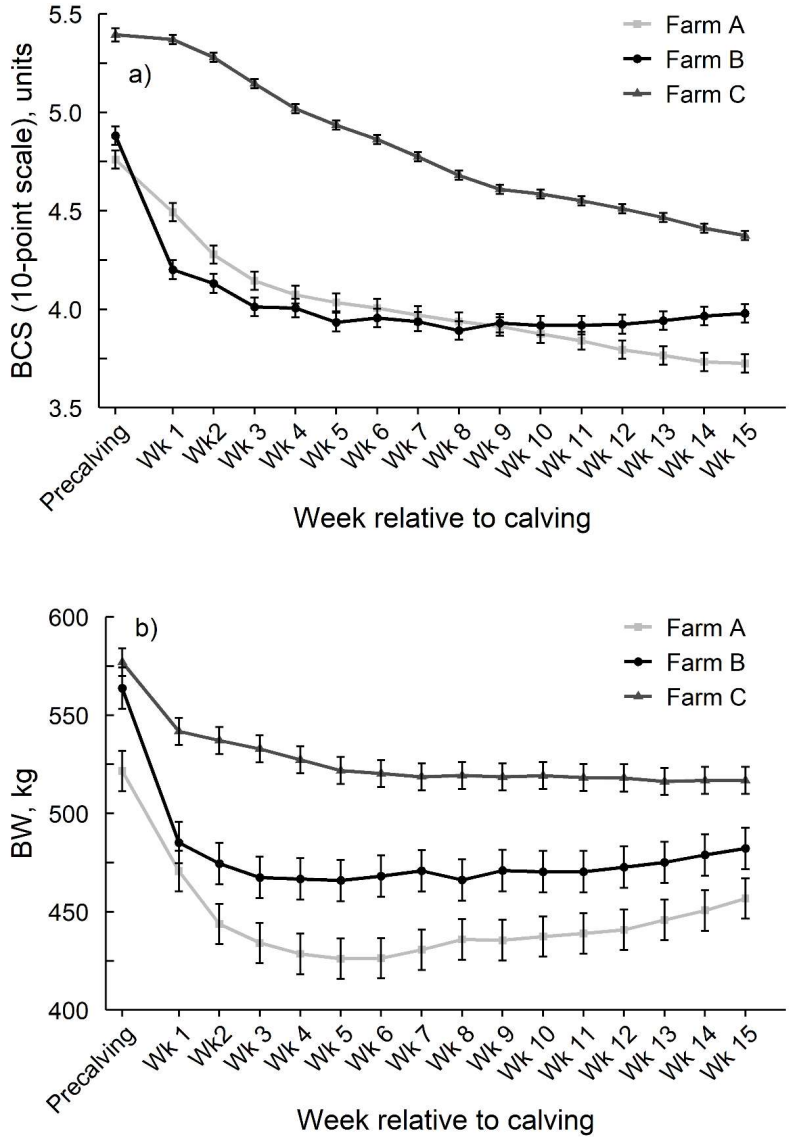
Description of HYK groups

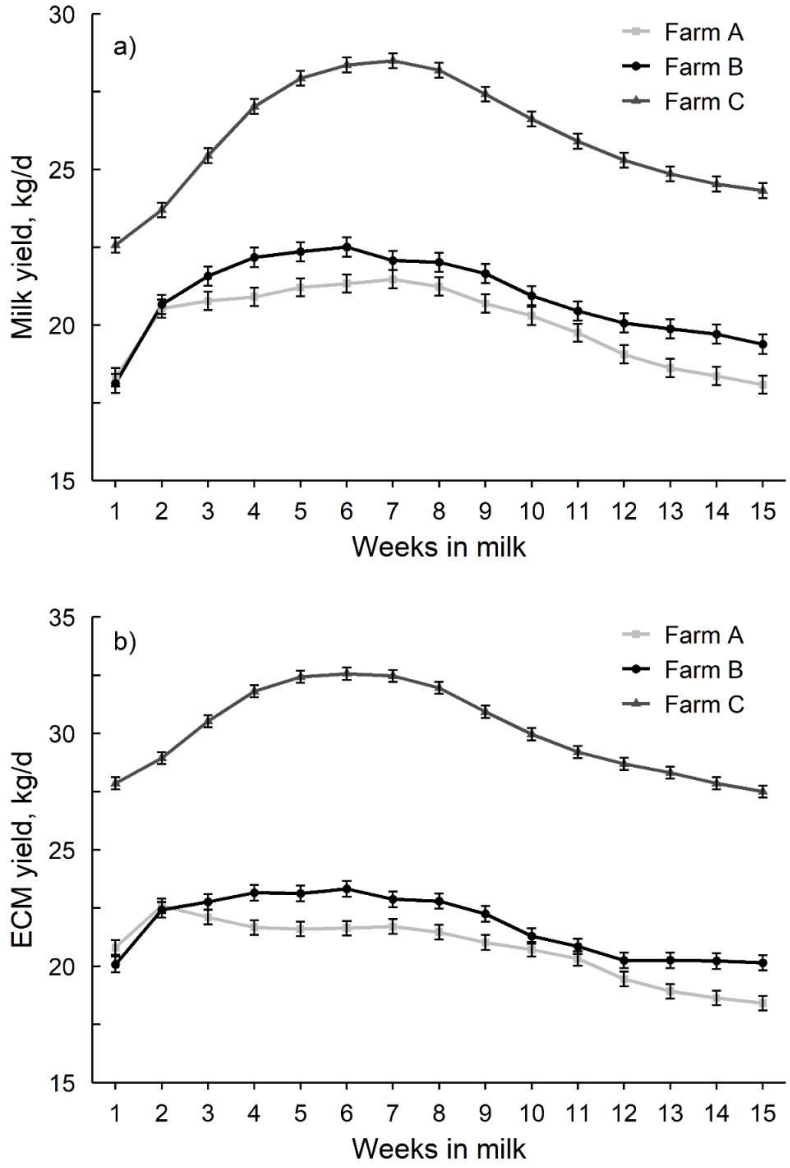
To aid analysis, the 980 cows remaining for analysis are described based on their HYK status and their assigned treatment group. Cows were classified as HYK if one or more blood BHB test was ≥1.2 to 2.9 mmol/L), non-HYK if they had no positive tests (blood BHB <1.2 mmol/L), or Sev-HYK if they had one or more blood BHB tests ≥3.0 mmol/L during the first 35 DIM, and subsequently, based on their assigned treatment group (e.g., Control or MPG). Cows that had a Sev-HYK test at their first positive test were described Sev-HYK (First) or if they had a Sev-HYK test after one or more HYK tests they were described Sev-HYK (Late) (Supplemental Figure S1). All Sev-HYK cows were treated with ketol.



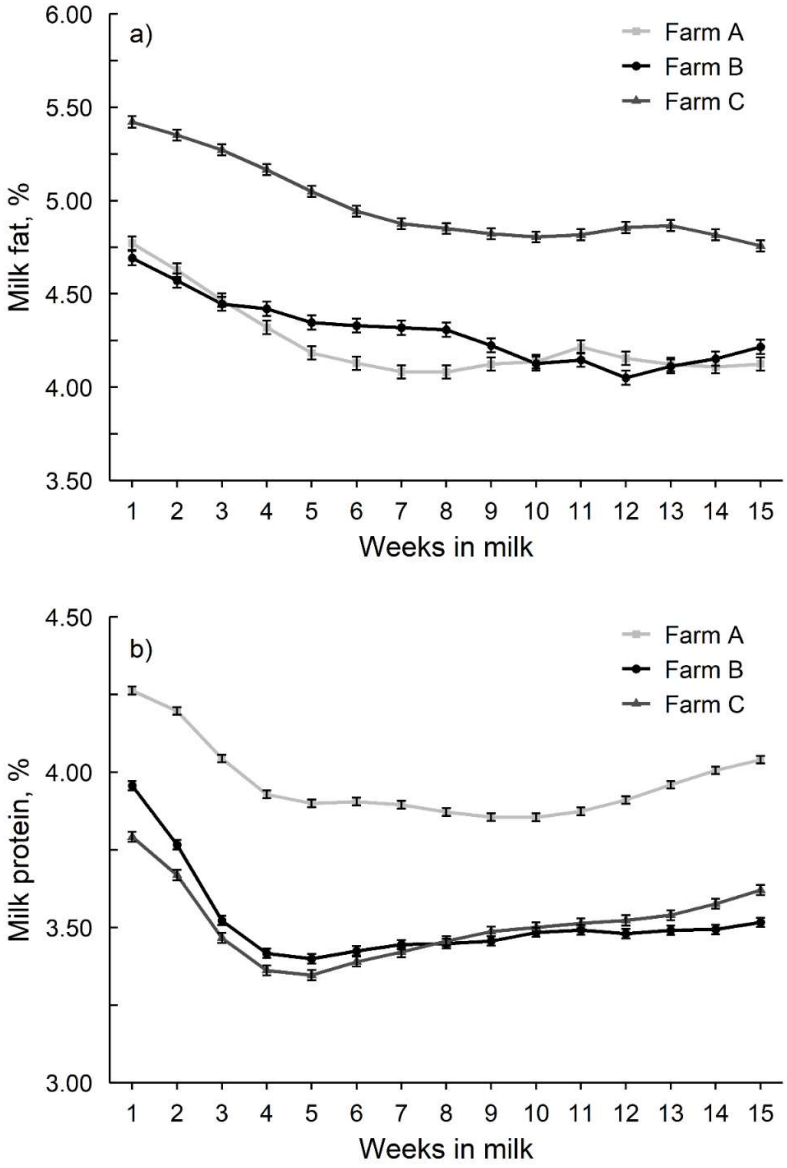
Supplemental Figure S1. A flow diagram demonstrating the different descriptors used for 980 Holstein-Friesian grazing dairy cows enrolled from 3 New Zealand farms that underwent repeated testing for hyperketonemia (HYK; blood BHB ≥1.2 mmol/L) from 1 to 35 DIM. Ctrl = untreated control group; MPG = monopropylene glycol intervention group; Sev-HYK = blood BHB ≥ 3.0 mmol/L; First = the Sev-HYK test was their first positive test; Late = the Sev-HYK test occurred after at least one other positive HYK test (blood BHB ≥1.2 to 2.9 mmol/L, and then blood BHB ≥3.0 mmol/L.



Supplemental Figure S2. Change in BCS [(a), units; 10-point scale] and BW [(b), kg] from the precalving period (mean ± SD = −10 ± 9 d, respectively) until 15 wk postcalving in 967 Holstein-Friesian grazing dairy cows across 3 New Zealand farms undergoing repeated testing for hyperketonemia from 1 to 35 DIM that had one or more blood BHB tests ≥1.2 to 2.9 mmol/L. Error bars represent ± 1 SEM.



Supplemental Figure S3. Milk yield (a) and ECM yield (b) (kg/d) during the first 15 weeks in milk in 969 Holstein-Friesian grazing dairy cows across 3 New Zealand farms undergoing repeated testing for hyperketonemia from 1 to 35 DIM that had one or more blood BHB tests ≥1.2 to 2.9 mmol/L. Error bars represent ± 1 SEM.



Supplemental Figure S4. Milk fat (a) and protein (b) (%) composition during the first 15 weeks in milk in 969 Holstein-Friesian grazing dairy cows across 3 New Zealand farms undergoing repeated testing for hyperketonemia from 1 to 35 DIM that had one or more blood BHB tests ≥1.2 to 2.9 mmol/L. Error bars represent ± 1 SEM.