

# Case Study

*Effects of a Multicomponent Herbal Extract on the Course of Subclinical Ketosis in Dairy Cows*



## Overview

A blinded placebo-controlled multi-center on-farm trial was conducted in dairy cows with subclinical ketosis to investigate effects of a multicomponent herbal extract. Blood ketone levels were measured weekly in early lactating cows from 16 Swiss herds.

Cows were subclassified based on their initial blood- $\beta$ -hydroxybutyrate levels ( $\geq 1.0$  [KET-low, 84 cows] and  $> 1.2$  mmol/L [KET-high, 39 cows]) and randomly distributed to 3 groups treated orally with a herbal extract, sodium propionate, or placebo twice a day for 5 days.

Milk yield, milk acetone, blood- $\beta$ -hydroxybutyrate, glucose, nonesterified fatty acids, gamma-glutamyl transferase, and glutamate dehydrogenase were analyzed over 2 wk. Linear mixed effect models were used for data analysis.

## Impact

No effects were found for nonesterified fatty acids, gamma-glutamyl transferase, and glucose. Significantly higher glutamate dehydrogenase (29.71 U/L) values were found in herbal extract-treated animals compared to sodium propionate on day 7 (22.33 U/L).

By trend, higher blood- $\beta$ -hydroxybutyrate levels (1.36mmol/L) were found in the placebo group of KET-high-cows on day 14 compared to the sodium propionate group (0.91mmol/L).

Milk yields of all treatment groups increased. Milking time and treatment showed a significant interaction for milk acetone: sodium propionate led to an immediate decrease, whereas herbal extracts resulted in a milk acetone decrease from day 7 on, reaching significantly lower milk acetone on day 14 (3.17mg/L) when compared to placebo (4.89mg/L). In conclusion, herbal extracts and sodium propionate are both likely to improve subclinical ketosis in dairy cows, however, by different modes of action.

## Supporting Material

- [Effects of a Multicomponent Herbal Extract on the Course of Subclinical Ketosis in Dairy Cows – a Blinded Placebo-controlled Field-study](#)
- [Handzettel KetoSan B Studie DIN A4](#)

*This sustainability-related case study was provided by **SaluVet**.*

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