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Production performance, immunity, and heat stress resistance in Jersey cattle fed a concentrate fermented with probiotics in the presence of a Chinese herbal

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Highlights

This Chinese herbal compound (CHC) can stimulate probiotics proliferation *in vitro*.

Concentrate is fermented by composite probiotics and CHC.

Production performance of Jersey cattle are improved after feeding with fermented concentrate.

Immunity and heat stress resistance of Jersey cattle are enhanced after feeding with fermented concentrate.

Ammonia content emissions is reduced after feeding with fermented concentrate.

Abstract

The goals of this study were to investigate the production performance, immunity, and heat stress resistance of Jersey cattle fed a concentrate fermented with compound probiotics in the presence of a Chinese herbal combination (CHC). First, the appropriate concentrations for the six Chinese herbs required to stimulate probiotic proliferation were investigated *in vitro*. Next, the optimal time and moisture content were determined for fermentation. We then tested the feeding effect of our fermented product on 36 growing cattle and 36 milking cows. The animals were randomly assigned to receive the product or not, resulting in half of each group receiving the treatment or serving as the control group. For 60 days, the experimental group was fed

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