

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PHYTOGENIC ADDITIVES IN DAIRY COWS DIETS

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Phytogenic additives in ruminant diets have increased due to society's concern with food safety and the sustainability of production systems. The objective was to evaluate the effects of the additive containing cinnamaldehyde, carvacrol, tannin and capsaicin in dairy cows diets. Fourteen lactating Holstein x Jersey cows were used, distributed in crossover 2 x 2, periods of 42 days. Basal diet (% MS): 46.0% corn silage, 7.0% soybean hull, 11.2% ground corn, 11.0% rehydrated corn, 21.0% soybean meal, 0.6 % urea, 0.3% white salt, 0.8% sodium bicarbonate and 2.0% mineral salt. The treatments were: control, basal diet without additive and additive, basal diet with additive. The variables evaluated were dry matter intake, milk production and composition, hemogasometry, rectal and surface temperature, and respiratory rate. In the statistical model, cow was considered as random effect and fixed effects of period and treatment, test at the 5% level of significance. The dry matter intake (17.2 vs. 17.2 kg day⁻¹, P = 0.99), production (22.3 vs. 22.0 kg day⁻¹, P = 0.51) and milk composition (P>0.05) did not differ between the control and additive treatments. The urea nitrogen in milk, which was lower (19.8 vs. 21.4 mg dL⁻¹, P<0.05) for cows receiving the additive treatment compared to those receiving control treatment. The rectal temperature variables (38.9°C vs. 39.0°C, P = 0.009) and respiratory rate (81 vs. 84 breaths min⁻¹, P = 0.05) were also lower for cows fed the additive treatment than those control treatment. The surface temperatures of the scapula (36.8°C vs. 36.8°C, P = 0.87) and rump (36.7°C vs. 36.7°C P = 0.87) did not differ between treatments. No disturbances were found (P>0.05) in the basic acid balance of blood between control and additive treatments, pH values (7.44 vs. 7.44, P = 0.94), partial pressure of CO₂ (37.97 vs 38.46 mm Hg⁻¹, P = 0.40), partial pressure of O₂ (32.71 vs. 31.25 mm Hg⁻¹, P = 0.11), total CO₂ (26.32 vs. 27.15 mmol L⁻¹, P = 0.10) HCO₃⁻ (25.18 vs. 25.77 mmol L⁻¹, P = 0.13) and base excess (1.06 vs. 1.42 mmol L⁻¹, P = 0.23) remained within normal range. The supply of the phytogenic additive in the diet of dairy cows did not influence the animal performance and it can act in the thermoregulation of the body.

Keywords: essential oils, milk production, tannin

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