Effect of supplementation with Yerba Mate (*Ilex paraguariensis*) and / or vitamin E on milk lipoperoxidation in cows receiving diets containing soybean seeds

Short title: Yerba Mate and Vitamin E on milk antioxidant properties

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This research communication addresses the hypothesis that the association of dietary Vitamin E and Yerba Mate could help to prevent or decrease oxidation of milk enriched in unsaturated fatty acids (UFA). Four multiparous lactating Holstein cows were used in a 4 × 4 Latin square. Treatments were: (1) control diet with no Yerba Mate or Vitamin E; (2) diet containing 375 IU/kg Vitamin E; (3) diet containing 30g/kg Yerba Mate; and (4) diet containing 375 IU/kg Vitamin E and 30g/kg Yerba Mate. To increase unsaturated fatty acids in milk, cows were fed 45 g/kg soybean seeds (on a dry matter basis). There was no interaction between Vitamin E and Yerba Mate supplementation for milk antioxidant-related (polyphenols, reducing power, conjugated dienes and TBARS) analyses. Milk reducing power was increased when cows were supplemented with Yerba Mate. Our results suggest that the association of dietary Vitamin E and Yerba Mate does not help to prevent or decrease oxidation of milk enriched in UFA.