EVALUATION OF MILK YIELD AND COMPOSITION OF F1 HOLSTEIN X GIR LACTATING COWS SUPPLEMENTED WITH RUMEN-PROTECTED CHOLINE DURING THE TRANSITION PERIOD*

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The use of rumen-protected choline (RPC) is a strategy to improve fat metabolism in the liver and reduce the prejudicial effects of negative energy balance in dairy cows during the peripartum. The objective of this study was to evaluate milk yield and composition of cows supplemented with RPC during the transition period (from 21 d pre-partum until 21 d post-partum). Thirty two lactating F1 Holstein x Gir cows (16 multiparous and 16 primiparous) were blocked by parity and randomly assigned to one of two dietary treatments: no addition of RPC (NC) and addition of 60 g of RPC (AC; Toplac Transition, Nutrifarma, Maripá, PR, Brazil). Diets contained 60% forage as corn silage and were isonitrogenous and isocaloric according to the NRC (2001) model. Supplementation of RPC was done from 21 d before expected parturition until 21 d post-partum. The experiment was analyzed as a randomized complete block design using the MIXED procedure for SAS and least square means were reported according to the tukey post-hoc test. Milk production was lower for multiparous cows in the NC diet (32.2 kg/d) compared to the AC diet (34.4 kg/d, $P<0.05$), but no effect was observed for primiparous animals. A difference between treatments was observed for milk fat yield for multiparous cows (0.88 kg/d and 1.17 kg/d for NC and AC, respectively, $P<0.05$) and primiparous cows (1.02 kg/d and 1.17 kg/d for NC and AC, respectively, $P<0.05$) and somatic cells count for multiparous cows (401 x 10^3 cells and 258 x 10^3 cells for NC and AC, respectively, $P<0.05$) but not for primiparous cows (143 cells/mL and 93.8 cells/mL for NC and AC, respectively, $P>0.05$). Also, no difference was found between treatments and parity level for milk fat percentage, milk protein or milk solids non-fat. Rumen protected choline supplementation to F1 Holstein x Gir multiparous cows

improved milk production and milk fat yield. Effect on primiparous cows was observed only on milk fat yield.