

Effects of the Supplementation of Potassium Humate at Different Levels to the Dairy Cows' Concentrated Mix during Dry Period on Early Lactation Yield Parameters and Dam/Calf Immunity

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Abstract : This study was conducted to investigate the effect of humic acid (Potassium Humate) at different levels on rations on the effects of both maternal and offspring health, metabolic parameters and immunity levels in transition dairy cows. For this purpose, 50 Holstein dairy cows divided 5 trial groups. Experimental groups were designed as follows: A) Control (0% Humas); B) 0.5 Humas (0,5% in concentrated diet); C) 1 Humas (1% in concentrated diet), D) 1,5 Humas (1,5% in concentrated diet), E) 2 Humas (2% in concentrated diet), respectively. The study lasted from the first day of the dry period to postpartum 30th day. Diets were prepared as isocaloric and isonitrogenic. In the experiment, the day on which the animals gave birth was accepted as '0 (zero)' and blood was taken from tail vein (v. coccygea) at -60, -53, -46, -39, -32, -25, -18, -11, -4, 0, ; Colostrum samples were taken on days 0, 1 and 2; Blood samples were taken on days 0, 1, 2, 15 and 30 from the jugular vein (v. jugularis) of the new born calves. Total blood leukocyte, Lymphocyte, Monocyte, granulocytes, Hemoglobin, Hematocrit, MCV, MCH, MWC, RDW, PLT, MPV, PDW, PCT, NEFA, BHBA, Glucose, Total Cholesterol , Triglyceride, LDL, HDL, VLDL, ALT, AST, ALP, GGT and Total IgG levels and colostrum IgG levels were determined in this experiment. The results suggest that although the supplementation of humic acid at 2% level adversely affected to production parameters, the addition of humic acid (potassium humate) to the concentrate mix during the dry period (particularly 0.5 and 1% levels) may provide an increasing on mother and the offspring immunity, some improving on serum metabolism parameters and enhancing the milk production.

Keywords : humic acid, dairy cow, calf, immunity

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