

CHANGES OF SOME HAEMATOCHEMICAL PARAMETERS IN DAIRY COWS DURING LATE GESTATION, POST PARTUM, LACTATION AND DRY PERIODS

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Abstract. The period of transition between late pregnancy and early lactation presents an important metabolic challenge to the high-yielding dairy cows. They need, especially for the high milk yield, more nutrients and energy supply than other animals. The aim of this study was to attempt at providing a complete picture of dynamics of selected biochemical blood parameters in dairy cows from late pregnancy to dry period, giving new and useful information about the guidelines for the management strategies during different physiological phases. The study was carried out on five clinically healthy dairy cows, breed Holstein Friesian, in good nutritional condition. All the experimental subjects were selected on the basis of their pregnancy and lactation status, so blood samples were collected two days before the expected parturition (Late gestation), during the post partum, in early lactation, during the 2nd, 5th and 15th weeks after parturition, at the end of lactation and at the dry period. On each serum sample urea, creatinine, total proteins, albumin, total cholesterol, triglycerides, NEFA, β -hydroxybutyrate, total and indirect bilirubins, calcium, phosphorus and magnesium were determined. On all data, normally distributed ($P < 0.05$, Kolmogorov-Smirnov's Test), one-way Repeated Measure Analysis of Variance (ANOVA) was applied to evaluate the influence of the reproduction status on the considered parameters. A significant effect of the physiological phase was observed on urea, creatinine, total proteins, total cholesterol, triglycerides, NEFA, β -hydroxybutyrate, calcium and phosphorus. Our data confirm that the lactation period is the more sensible, by a metabolic point of view, for the high production dairy cow, so the information, provided in this paper, advance the continuous investigation in animal welfare and can be a useful tool in managing and preventing the deficiencies typical of high production ruminants.

Keywords: haematochemical parameters; dairy cow; parturition; lactation; dry period.