

INFLUENCE OF LACTATION ON SOME PLASMA BIOCHEMICAL PARAMETERS IN N'DAMA AND WHITE FULANI COWS

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ABSTRACT

Plasma samples obtained from thirty-three non-pregnant non-lactating and lactating N'Dama and White Fulani cows at Oyo, Nigeria, were analysed to determine the influence of lactation on some biochemical parameters between and within breeds. The plasma concentrations of aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (AP), gamma-glutamyl transpeptidase (γ -GT); creatinine, blood urea nitrogen (BUN), albumin-globulin ratio (A:G), sodium (Na), potassium (K), sodium-potassium ratio (Na:K), chloride (Cl), bicarbonate (HCO₃), calcium (Ca), inorganic phosphate (PO₄), triglycerides and cholesterol showed no significant differences ($P > 0.05$) within and between the two breeds of cattle. The plasma levels of total protein and globulins did not differ significantly within breed but differed significantly ($P < 0.05$) between the non-lactating White Fulani and the two N'Dama groups. The relationships between plasma concentrations of albumin and globulin as well as between albumin and total protein were positive, albeit non-significantly, in all groups of the two breeds of cattle while those of globulins and total protein were very significant ($P < 0.001$) and positive in the White Fulani and non-lactating N'Dama groups. Lactation appears to have had a pronounced effect on the plasma concentrations of total protein and globulins of the White Fulani cows than the N'Dama cows. It also may have altered the relationship between plasma total protein and globulins in N'Dama cows.

Keywords:

Lactation, White Fulani, N'Dama, plasma, Biochemical parameters.