Relationship between blood attributes and predicted breeding value for milk yield in calves

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The change of glucose, enzymes (GOT, LDH) and metabolites (free fatty acids, urea, lactat) in blood serum of 40 male *Simmental* calves was investigated during a 48 hours starvation period. During starvation period the concentration of glucose decreased from 3.71 ± 0.06 mmol/l to 2.16 ± 0.05 mmol/l. We observed an increase of GOT- and LDH-activity in blood serum with increasing starvation time. Calves with high predicted breeding value for milk yeild showed before, during and after the starvation period lower GOT- and LDH-activity than beef calves with a significant lower predicted breeding value for milk yield. The concentration of urea in blood serum increased during the starvation period. The concentration of free fatty acids in blood serum changed slightly but without definite pattern. Surprisingly, calves with different predicted breeding value for milk yield displayed before and after starvation periods nearly the same concentration of free fatty acids, but during the starvation period varying concentrations.

Nuclear DNA content in water buffalo

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Scanning microdensitometry has been used to measure the nuclear DNA content in water buffalo lymphocytes. The technique is exquisitely sensitive and allows the detection of individual differences, both among and within animals, that aren't resolved by any other current method.

The trial was carried out on 2 965 isolated nuclei from buffalo lymphocytes of 20 animals, with two groups of 10 males and 10 females for each one, and DNA content was measured with the Feulgen reaction, using Zeiss Scanning Microscope Photometer SMP 01. All measurements were made at a wavelength of 560 nm, employing 100 × objective.

On the total number of observed lymphocytes, the modal class was 0.200, the average of the nuclear DNA content was 0.20438 ± 0.021 (c.v. % = 12 p. 100) ; the sex difference was 0.00574 ($t = 7.4545$; $p < 0.001$).

The origin of the variation in nuclear DNA content was critically evaluated in relation : (a) to the adaptive mechanisms by which the environment induces genetic changes as it may occur in natural conditions, and (b) to the variety of distributional patterns and variable amounts of constitutive heterochromatin (C band) in the chromosomes.