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Effect of mineral and herb components on the level of enzyme activity in blood serum of calves

Summary

The effect of including mineral-herb mixtures into the diet for feeding of the calves of Black-and-White breed on the level of aspartic transaminase (AST), alanine transaminase (ALT) and alkaline phosphatase (AP) in the blood serum of calves was estimated in the study. The experiment was carried out on four groups, eight animals each. The groups of calves (A, B and C) were fed the concentrate supplemented with 3.5% three different mineral-herb mixtures, containing 1,5% of herbs. The mineral-herb mixtures in the respective sets were supposed to have the following effects: regulating digestion processes and stimulating appetite (mixture A); strengthening the immune system (mixture B); showing a soothing effect and decreasing stress caused by environmental factors (mixture C). The control group calves (K) did not receive the mineral-herb mixture in their feeding dose. There were three fixed dates (the age of calves) of collecting the blood samples for the examination: I (18^{th} week), II (22^{nd} week) and III (26^{th} week). The level of AST, ALT, AP in the blood serum of calves was determined with Cormay diagnostic set. The addition of the mineral-herb mixtures caused a significant increase of AST activity in blood serum of the growing calves. The activity of ALT in the blood of calves from groups K, A and B remained on the same level. Only in the experimental group C the significant decrease of ALT activity was observed. In groups A, B and C the activity of AP was significantly lower than in the control group K. The optimal level of all the examined enzymes in the blood serum indicate to positive effect of examined mineral-herb mixtures on the health status of calves.