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**PEROXIDE OXIDATION PRODUCTS CONCENTRATION
IN BLOOD PLASMA AND LACTATION PERFORMANCE INDEXES
UNDER CONDITIONS OF ADDING MOLASSES TO COWS DIET**

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One of the important fields of research is metabolism in nonmilking and fresh cows is determination of various diet carbohydrate fractions influence on cows metabolism, health conditions and lactation performance. Supplementation of cows diet with sugar stimulates absorption of feed dry matter, causes increases of propionate, valerate and lactate concentrations in rumen as well as decrease in the concentration of acetate.

Objective of the research is to analyze the influence of adding varying amounts of sugar as a part of molasses to the diet of cows at the end of dry period and during fresh lactation period on blood biochemical indicators, clinical conditions and following lactation performance.

The research was performed on SVK "Urozhay" in the Zaborol village, Lutsk district, Volyn region. It involved three groups of Ukrainian black-and-white dairy breed cows during transition period with the productivity amounting to 6–7 thousand kilograms of milk over previous lactation period. Each group consisted of 10 cows. Research time-range covered the dry period and the initial period of lactation. Cows of the first group were fed standard balanced diet. Diet of cows of the first group contained 0.5 kg of molasses during transition period, 1 kg during lactation period. Diet of cows of the second and third group contained 0.5 kg and 1 kg of molasses respectively during dry period, 1 kg and 2 kg respectively during lactation period.

Venous blood and milk were collected for lab analysis. During the dry period blood from the jugular 1–2 weeks prior to calving was examined. After calving blood samples were collected after 5 and 30 days.

After calving peroxide oxidation processes in cows activated resulting the increase of the concentration of lipid hydroperoxides, TBA-active products, diene conjugates basic fat in their blood. 30 day after calving indicators mentioned above have significantly decreased and were lower not only comparing to those during after-calving period, but also during the dry period too. Addition of molasses to the diet did not influence the concentration of peroxide oxidation products.

Substituting part of starches with sugar in a diet influences positively lactation performance in cows. At the same time both milk yield and its fatness have increased. The growth of the milk fatness can be explained by the rise of butyrate concentration in the rumen, which is the precursor of the significant amount of firth four carbon atoms of fat acids synthesized in the mammary gland.

Increase of the molasses from 1 kg to 2 kg in the ration of lactating cows was positive for lactation productivity. Average daily milk-yield has grown by 1.5 kr, or by 5.9 %. Converted to basic fat amount these differences were 1.83 kg and 6.7 %. At the same time daily average production of milk fat, milk proteins and lactose went up by 5.4, 7.5 and 6.6 %. Further increases of amount of molasses to 3 kg in the cows' diet did not influence the indicators of lactation performance, which decreased to the levels of cows that were fed 1 kg of molasses as a part of their diet.