

PHYSICAL-BIOCHEMICAL INDICES OF COPPER BLOOD UNDER NICKEL CITRATE AGREEMENT IN THE LAST PERIOD OF CONTENT AND IN THE FIRST MONTH OF LACTATION

*M. M. Khomyn¹, O. I. Koleshchuk¹, I. I. Kovalchuk¹,
M. M. Tsap¹, Y. V. Biletskyi²*

¹Institute of Animal Biology of NAAS,
38, V. Stusa str., Lvin, 79034, Ukraine

²Lesya Ukrainka Eastern European National University
13, Volya Avenue, Lytsk, 43025, Ukraine

The aim of research was to study the effect of the adding solutions of Ni citrate to the ration on physiological and biochemical processes in the blood of cows during 9th month of calving and in the first two months after calving.

Studies were conducted in SE "Research farm Pasichna" using 24 full-grown cows Ukrainian black and white dairy breed with similar productivity (5,5-6,0 thousand kg of milk per lactation), age (3-6 lactation), body weight (590-650 kg) and lactation period (2st month after calving).

In the preparatory period (15 days), cows were divided into 3 groups. Animals of the I – control, II and III – research groups in preparatory period received a basic diet, balanced nutritionally.

In the experimental period (75 days), cows of the II research group except basic diet on the 9th month of calving and in the first two months after calving of nickel citrate in the amount of 0.1 mg Ni per kg dietary dry matter, while animals of the III research group – basic diet with the addition of Nickel citrate in the amount 0.3 mg Ni per kg dietary dry matter.

Nickel citrates, obtained by the method M. Kosinova and V. Kaplunenko using nanotechnology. For biochemical studies venous blood samples were taken at preparatory and research periods.

It was established that the inclusion in the diet of cows on the 9th month of calving and in the first two months after calving of nickel citrate in the amount of 0.1 mg / kg of dry matter of feed (group II) and 0.3 mg/kg of dry matter of feed (group III) contributed to the positive changes in some hematological parameters.

In particular, there was a decrease in the activity of aminotransferases, in particular, AsAT in 21.5% and not likely to ALT during the first month of feeding, and

in the second month — increase in albumin concentration by 19.9% and activity of AsAT by 17.1% ($p < 0.05$) in the blood of animals of the second experimental group.

Keywords: COWS, BLOOD, NICKEL CITRATE, HEMATOLOGICAL AND PHYSICAL-BIOCHEMICAL PARAMETERS, NANOTECHNOLOGIES.