

R. HUNCHAK, H. SEDILO

Institute of Agriculture of Carpathian Region of NAAS

PRODUCTIVE ACTION OF ADDITION IODINE AQUACITRATE IN SOWS' RATIONS

Iodine is an essential element for the synthesis of hormones of the thyroid gland, which stimulate the processes of oxidation in tissues and increase the use of oxygen necessary for normal growth of the body, play an important role in the exchange of carbohydrates, fats and proteins. Its shortage in the sows diet leads to violations of the functional state of the endocrine organ, and, as a consequence, to decrease in reproductive capacity and productive qualities of females. Therefore, additives in various iodine compounds are used in feeding pigs, but their bioavailability is uneven. Promising in this context are organic forms of biogenic elements in the form of aquacitrates obtained by the use of erosive and explosive nanotechnology.

It is established that the amount and form of iodine entering the body of sows with feed during the period of pregnancy and lactation affects their multiplicity and quality of the received young, in particular the mass of newborn piglets, the survival of the offspring and growth in the subsistence period (before weaning). It was found that in organic, citrated form, the optimal amount was the amount of iodine, which was 1/2–1/4 of the element content in form of inorganic salt in contents of standard premix. Under these conditions, sows of experimental groups gave birth to 13,7–14,0 piglets. The body mass of piglets at birth was on 8,5 and 5,1 % higher than of newborn young piglets from sows in the control group.

Average daily increments in piglets at weaning (28 days) were at the level of 250–264 g. The mass of the pigs' nest in this period exceeded the control group analogues by 14,2 and 8,2 %, respectively.

Given the introduction dose of 0,38 mg/kg, which is equivalent to (1:1) of the recommended amount of potassium iodide element in the standard premix, in sow diets, the multiplicity of sows decreased by 4,5 % compared with control. Piglets from such mothers were less viable (preservation 91,5 %), and their mass at weaning was 85,8 % compared to the same indicator in young animals obtained from the sows of the control group. At the same time, when adding to the sow diet iodine aquacitrate with a dose that was 10 times less than the recommended amount of iodine

in the form of iodides, most of the studied parameters are close to the level of animal control in the control group.