CONTENT OF THYROID HORMONES IS IN PLASMA OF BLOOD OF SOWS AT INFLUENCE OF FEED ADDITION OF «GUMILID»

Shvetsova O., Stepchenko L.

Annotation. In the article the brought results over of dynamics of content of thyroid hormones in plasma of blood of sows at influence biologically of active feed addition of "Humilid". It is set that " Humilid" is able to influence on thyroid status of sows, to what the reliable changes of content of thyroid stimulating hormone (TSH) and free thyroxine (f T4) testify in an experience group on a 30th day in two weeks after the course from unuseful of "Humilid". Results undertaken studies testify that application biologically of active feed addition of "Humilid" to the sows in the reproductive loop can positively influence on thyroid status that shows up in the improvement of a motion of pregnant-swine and on the increase of level of their productivity after delivery.

Keywords: sows, reproductive cycle, pregnant-swine, thyroid stimulating hormone (TSH), free thyroxine (f T4), feed addition, "Humilid"

The aim of our work was to study the content of thyroid hormones (TSH, free T4) in the blood plasma of sows in the reproductive cycle in terms of application of biologically active food additive "Humilid".

Material and methods research. Experimental studies were carried out on sows hybrid breeds Large white × Landrace (parent form F1) in different periods of the reproductive cycle. It was created by two groups (control and experimental) by a method similar groups, each group of 20 sows after first Farrow. The sows during pregnancy and lactation two-week courses with drinking water gave biologically active food additive "Humilid" (TU U 15.7-00493675-004:2009) optimal dosage. In taken blood samples to determine the content of thyroid hormones (TSH, T4) radouane method. The research results were statistically processed using the software package Microsoft Excel'2003. The accuracy of the detected changes were determined by the test of significance t-test. Changes were considered significant at $p < 0.05$, $p < 0.01$, $p < 0.001$.

The research results. Pregnancy is a complex physiological process, which is characterized by a cascade of changes that are subordinated to the creation of optimal conditions for development of fetures. During pregnancy gradually increased activity of the thyroid gland, which is the key to keeping the pregnancy and going through all stages of embryogenesis. In the period of intrauterine development from the first phase of embryonic payperiod, characterized by the recognition by the mother the presence of embryos and the establishment of maternal-fetal interaction, there is a gradual increase in the content of thyroid hormones.

The results of studies on the content of thyroid hormones in the blood plasma of sows for the influence of feed additives "Humilid" showed that in the experimental group on the 30th day of gestation significantly increases the amount of TSH and free thyroxine respectively 25 % and 13.1 % ($p < 0.05$) compared with control. These changes are physiologically reasonable and thyroid hormones to maintain the pregnancy and thyroxine ensures the implantation process. In addition, in the first period of gestation is recorded physiological increase in the content of free thyroxine and transient suppression of thyroid-stimulating activity adenoid with subsequent restoration at the end of pregnant-swine. Observed physiological increase in the content of thyroid stimulating hormone (TSH) and thyroxine in both groups in relation to the zero day 1 during the period of insemination on the 30th day of gestation, with a significant difference: TSH in the control group by 50 % ($p < 0.05$), TSH – in the experimental group 73.1 % ($p < 0.01$). At the same time dynamics of the content of thyroxine on the 30th day in the control group does not change significantly, while in the experimental group observed a significant increase in the content of T4 by 37 % ($p < 0.01$). At 112-113th days of pregnant-swine were recorded significant changes to the content of thyroid hormones in the blood plasma of animals in both groups. So, in the last days of pregnancy in sows was recorded a significant increase in the content of thyroxine in the experimental group compared with the control 27.6 % ($p < 0.05$). The content of thyroid-stimulating hormone in the control group in the last days of pregnant-swine relative to the zero day 1 (fertilization) increased to 120.8 % ($p < 0.01$), respectively in the experimental group

– by 88.5 % ($p < 0.01$) in relation to zero experience in 1 day. Regarding the content of thyroxine at 112-113th days of pregnant-swine in both groups observed a significant reduction against zero-day 1 by 48 % ($p < 0.001$) and by 60.9 % ($p < 0.01$) (control and experimental group respectively). On zero day 2 (insemination) when you begin a new reproductive cycle, recorded significant changes only in the content of thyroxine in the experimental group relative to the zero day 1 (insemination) 33.4 % ($p < 0.05$). So, in the first month of pregnant-swine observed significant changes in the content of thyroid hormones in the blood plasma of sows, which may indicate a positive effect of feed additive "Humilid", which was used for watering during the period of insemination within two weeks.

Conclusions. Biologically active food additive "Humilid" has the ability to positively affect the thyroid status of sows during the first month of pregnancy, which is manifested in the improvement in the course of pregnant-swine and the level of their performance.