

THE IMPACT OF IODINE ON BIOCHEMICAL BLOOD PARAMETERS IN LAYING HENS

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Summary. In the areas, where the biosphere is deficient in iodine, the feed for domestic animals and laying hens should be supplemented with larger than the recommended doses of the trace element iodine. That would enable to concentrate the reserves of this element in the production, thus enriching human nutrition with iodine. The goal of the trial was to investigate the changes in the amount of the thyroid hormones, proteins and fats in the blood and blood serum of laying hens by using a stable concentrated preparation "Jodis" instead of the usual potassium iodide in the feed. For the trial, three equal groups of laying hens were randomly formed, each containing 40 hens from 30 to 47 weeks of age. The laying hens of Group 1 (control group) were fed with the standard diet supplemented with a recommended daily dose iodine i. e. 1 mg I/kg feed in the form of potassium iodide. The laying hens of Groups 2 and 3 (experimental groups) were fed with the standard diet where potassium iodide was replaced by a dry stable iodine supplement "Jodis". The amount of iodine in the diet given to laying hens in Group 2 was 1 mg I/ 1 kg feed, and in Group 3 – 4 mg I/ 1 kg feed, respectively.

There were significantly increased levels of thyroglobulin and free thyroxine, and decreased levels of free triiodothyronine in blood, and triglycerides in blood serum of experimental laying hens (Groups 2 and 3) compared to controls (Group 1). The HDL and LDL cholesterol level in blood serum of experimental hens was lower than in controls, but the difference was not statistically significant.

Keywords: iodine, thyroid hormones, cholesterol, triglycerides, proteins, laying hens.