

## **Effect of Wheat and Barley-Based Combined Forage Non-Starch Polysaccharides and Enzymatic Preparations on the Major Sanguine Indices in Broiler Chickens**

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### **SUMMARY**

The objective of our experiment was to determine the utilization protocol of enzymatic preparations in concordance with the wheat and barley proportion in the combined forages for broiler chickens and the effect exerted by them on sanguine indices. The experiment was performed during six weeks, on a number of 150 chickens, distributed in five experimental groups (LE1, LE2 and LE3, LE4, LE5), as follows: the experimental group LE1, fed with forage without wheat in its structure, the experimental group LE2, fed with combined forage including wheat in proportion of 60%, the experimental group LE3, fed with forage including 60 % wheat, with addition of 100 ppm xylanase, the experimental group LE4, with 30% wheat and barley in the same proportion, and the experimental group LE5, fed with wheat and barley like LE4 and with addition of 50 ppm xylanase and 50 ppm beta glucanase. At the age of 6 weeks, successive to chicken killing, we sampled the blood and determined its content in cholesterol and triglycerides. Successive to our determinations, we could observe that the triglyceride level in LE2 was smaller with 17.76% than in LE1, and the cholesterol level was bigger with 4.26%, when compared with the same group. The addition of the wheat-specific enzyme in the case of LE3 does not cause major changes of the triglyceride (1.43%) and cholesterol (0.9%) levels. Wheat substitution with barley determines changes of the triglyceride and cholesterol levels; the triglycerides increase with 33.81%, and the cholesterol with 16.36%. In LE5, the supplementation with the two enzymes specific to wheat- and barley- NSP determines a slight increase of the triglyceride level, with 1.07%, and of cholesterol with 6.64%. LE4 and LE5 represent exceptions, because cholesterol levels correspond to the limits mentioned by the literature of specialty. Consequently, we may draw the conclusion that wheat utilization in a big proportion, respectively 60% of forage structure, determines a decrease of the triglyceride level (17.24%) and a slight increase of the cholesterol level (4.26 %). The enzyme supplementation does not change the level of these sanguine constants. The relationships between viscosity, nutrient absorption and plasmatic cholesterol require further studies, with various polysaccharide sources.

### **REFERENCES**

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