

THE APPLICATION OF TRITICALE IN NUTRITION OF BROILER CHICKENS

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Abstract. The objective of this work was to analyse the chemical composition of wheat and triticale varieties and their application in nutrition of broiler chickens. In the first step, grains of different varieties were analysed for chemical and amino acid composition; and later, the experiment with broiler chickens was performed. Birds were fed for 5 weeks with wheat (the variety *Zentos*) – soybean meal compound feed (Control group). In the compound feed of experimental diet (Group T), wheat *Zentos* was replaced by 15% of triticale variety *SU Agendus*. The intestinal content of *Duodenum*, *Intestinum tenue*, *Cecum* and *Intestinum crassum* was collected for the determination of pH and DM content. The concentration of chymus SCFA was measured by the HPLC system. It was found that the mean level of crude protein was 11.44% DM in wheat variety *Zentos*, the mean amount of crude fat was 1.28% DM and crude fibre 1.88% DM. In triticale variety *SU Agendus*, the mean level of crude protein was 11.57% DM, the mean amount of crude fat 1.30% DM and crude fibre 1.35% DM. Triticale showed levels of NDF – 10.04% DM, ADF – 2.50% DM, and ADL – 1.02% DM. In addition to 15% of triticale in the compound feed of broiler chickens, the concentration of acetic and propionic acids increased by 6% and 16%, respectively. The DM of *Intestinum crassum* increased significantly by 6% compared with the C group ($P < 0.05$). In the compound feed of broiler chickens, up to 15% of wheat could be replaced by triticale without affecting performance and digestive processes of broilers.

Keywords: chemical composition, broiler chickens, nutrition, triticale, physiology