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Nutritional and economic value of diets with different levels of triticale and wheat in feeding broilers

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Abstract

This research was conducted to investigate the replacement of maize with different levels of triticale and wheat grain and its effects on performance and carcass traits in broilers. In this experiment, 600 roosters of Ross 308 strain were used (in a completely randomized design with 6 treatments, 4 replications and 25 chicks per replication). Treatments include 1) Corn-soybean meal (control) 2) Wheat-soybean meal 3) Replacement of corn with 50% wheat with enzyme 4) Replacement of corn with 100% wheat with enzyme 5) Replacement of corn with 50% triticale with enzyme 6) Replacement Corn was 100% triticale with enzyme. All diets were prepared based on the proposed tables of strains and with the minimum cost for a full breeding period (1 to 42 days). The amount of dry matter, crude protein, ash, calcium and total phosphorus of triticale grain of Hashemi cultivar were measured 96.88%, 11.97%, 2.05%,

0.13% and 0.33%, respectively. The results of this research showed that experimental treatments did not cause significant differences in feed intake, body weight, feed conversion ratio, Livability percentage and production index. In addition, based on the ranking obtained in multi-index decision management method, 50% triticale treatment and 100% corn treatment received the lowest scores. Treatments with triticale and wheat reduced the use of soybean meal in addition to corn in the diet and significantly reduced cost of feed intake per kilogram of live weight ($P < 0.001$). According to the results of this research, it can be said that the use of triticale or wheat with an enzyme and its 100% replacement with dietary corn, not only didn't have a negative effect on the performance of broilers, but also reduces feed costs for each kilogram of live weight can also be produced. Therefore, this method is recommended as a suitable solution to reduce corn imports and provide part of the energy and protein needs of broilers.

Keywords: Triticale, wheat, enzyme, performance, broiler