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**Czech Journal of Animal Science**

**Comparison of performance and digestibility characteristics of broilers fed diets containing treated hulled barley or hullless barley**

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This study was performed with growing chickens (14 to 56 days of age) to evaluate the effects of feeding a barley-based diet. The treatments were maize diet (1) as a control, barley diet with (4) or

without (2) the commercial enzyme  $\alpha$ -glucanase, barley treated with rumen fluid without protozoa (3) and hulless barley (5). The effects of treatments were investigated in a 42-day trial using 360 sexed broiler chickens. In a digestibility trial, 15 male broiler chicks were used at 45 days of age. In this regard, five treatments were offered to chickens in three replications individually. The experimental design for performance investigation was a completely randomised one with a  $5 \times 2$  factorial arrangement of treatments. Each of the five treatments was replicated three times per sex ( $n = 3$ ). The levels of barley in treatments (2) to (5) were 35% during the growing (14 to 42 days) and finishing (42 to 52 days) period. At the end of trial, two birds from each pen were selected and slaughtered. Blood samples were taken just before slaughter of birds. No significant differences ( $P > 0.05$ ) were observed between (3) to (5) treatments with maize diet in weight gains, feed intake and feed conversion, but barley with no treatment (2) showed lower weight gain compared to the enzyme treatment and hulless barley diet ( $P < 0.05$ ). Ether extract digestibility

decreased significantly in all barley diets compared with maize diet ( $P < 0.05$ ). Digestibility of DM, CP, and NFE was lower in barley diet with no treatment, in comparison with other treatments ( $P < 0.05$ ). Reduction of serum cholesterol was observed in birds on hulless barley diet ( $P < 0.05$ ), but serum triacylglycerols and glucose did not show any significant differences between treatments ( $P > 0.05$ ). Mean percentage yield of breast showed the highest percentage in barley diet with no treatment ( $P < 0.05$ ) and abdominal fats were produced in lowest amounts in carcasses on hulless barley diets ( $P < 0.05$ ).

### **Keywords:**

broiler; barley; hulless barley; enzyme; cholesterol; digestibility

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