

## NUTRITIVE VALUE OF RAPESEED AND EFFECT OF *PHENIOPHORA LYCII* PHYTASE ON NUTRIENTS UTILIZATION IN BROILER CHICKENS FED DIETS WITH DIFFERENT AMOUNTS OF RAPESEED

Vilma Šašytė, Romas Gružas, Asta Racevičiūtė-Stupelienė, Agila Semaškaitė

Department of Animal Husbandry, Lithuanian Veterinary Academy, Tilžės g. 18, LT-47181 Kaunas, Lithuania, tel./fax.: +37037 363505, e-mail: sasvil@lva.lt

**Summary.** The aim of performed work was to determine the nutritive value of rapeseed, its effect on productivity of broiler chickens, effect of *Pheniophora lycii* phytase (6-phytase) on utilization of calcium (Ca) and phosphorus (P) in broiler chickens fed diets with different amounts of rapeseed. The chemical composition of antinutritional compounds of rapeseed showed a high level of phytate P (5.08 mg/g DM) comprising 65.47% DM of the total P, low levels of glucosinolate - 7.96  $\mu\text{mol/g}$  and erucic acid - 0.14%. The feeding test was performed with thirty two 14-49 day old ROSS 308 breed broiler chickens, which were divided randomly into 4 groups each of 8 birds. The results of the feeding test showed that increasing amount of rapeseed (2.5–7.5%) in the broiler chickens diets with prolonged feeding test time, decreased the productivity of broiler chickens and increased feed conversion. In the metabolic experiment forty eight 21-34 day old ROSS 308 male broiler chickens were divided randomly into 6 groups. Each group consisted of 8 replications of 48 cages (one bird per cage). Broiler chickens in control (Groups 1, 3 and 5) were fed with wheat-soybean meal diet with different amount of rapeseed (2.5%, 5% and 7.5%). The experimental diets (Groups 2, 4 and 6) were supplemented with 6-phytase (750 FYT/kg) (produced from fungus *Pheniophora lycii*). The results of the metabolic experiment showed, that higher amount of rapeseed in the diet (7.5%) decreased the utilization of P and Ca, however, supplementation with 6-phytase compared to controls improved P and Ca utilization by 14.19 % and 4.08% ( $P < 0.05$ ), respectively. In conclusion, the results from this study indicate that the optimal concentration of rapeseed in broiler chickens diet is up to 5%.

**Key words:** rapeseed, diet, Ca, P, 6-phytase, broiler chicken.