



## MINISTRY OF JIHAD-E-AGRICULTURE

Agricultural Research, Education and Extension Organization  
Animal Science Research Institute

### **Effects of *Heracleum persicum* and *Pimpinella anisum* L. extracts on broilers performance, blood metabolites and immunity system**

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#### **Abstract**

This experiment was conducted to evaluate the effects of plants extracts of Anise and Heracleum seeds, Oxytetracycline antibiotic and **Primalac** probiotic on growth performance, serum metabolites, immune response, and gut micro flora of 400 one-day-old strain 308 of Ross broilers in a completely randomized design with five treatments and four replications. Five iso-energetic and iso-nitrogenous diets were prepared and randomly assigned to the five groups, including; 1; control diet on the basis of corn-soybean diet, 2; 200 mg/kg of anise seed + control diet, 3; 200 mg/kg heracleum seed + control diet, 4; 200 mg/kg of oxytetracycline antibiotic + control diet, and 5; 100 mg/kg of **Primalac** probiotics + control diet, respectively. The traits of performance (average daily gain, feed intake, and feed conversion ratio), carcass characteristics (carcass weight, brisket, leg, hart, liver, and internal fat), serum metabolites (Triglyceride, Cholesterol, LDL, HDL), immune response, and gut micro flora parameters were measured. The results showed that effects of plants extracts of Anise and Heracleum seeds, Oxytetracycline antibiotic and **Primalac** probiotic on feed intake and feed conversion ratio was not significant ( $P>0.05$ ), but the highest average daily gain was observed in the control group ( $P<0.05$ ). The effect of experimental treatments on serum metabolites (Triglyceride, Cholesterol, LDL, HDL), hemoglobin, hematocrit, blood globules and **heterophil** to lymphocyte ratio was not significant ( $P>0.05$ ). Using experimental diets, did not significant on gut micro flora of broilers ( $P>0.05$ ). As a final result, addition of anise and heracleum seeds extract up to 200mg/kg/DM to the experimental diets can be used as alternatives instead of

antibiotics, for growth promotion, and improvement of lipid parameters of blood serum in Broilers.

**Keywords:** Extract, Anise, Heracleum, Antibiotic, Probiotic, Broiler