

## THE USE OF OAT (*Avena sativa*) POWDER IN LAYING HEN BREEDERS DIET FOR IMPROVING FERTILITY AND HATCHABILITY TRAITS.

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### ABSTRACT

This study was conducted at the Poultry Farm of Animal Resources Department, College of Agriculture, University of Sulaimany to investigate the effect of dietary supplementation with different levels of oat powder on fertility and hatchability traits of layer breeder chicken. A total of 132 Bovans Goldline birds (٤٨ roosters and 84 hens) 16 weeks old were used in this study. Birds were randomly allocated for 4 treatments with 3 replicates each and each replicate contained 11 birds (4 males and 7 females) (12 roosters and 21 hens for each treatment). Roosters and hens were reared separately into ground cages. Treatments of experiment were as follows: Treatment 1 (Control group; C): roosters and hens fed control diet and Treatments 2, 3, and 4 (T1, T2, and T3) represented roosters and hens fed diets supplemented with 2, 4, or 6 kg of oat powder / ton of diet, respectively. Birds were fed these diets for ١٦ weeks including the preliminary period which lasted 4 weeks. Traits included in this study were percentages of fertility, hatchability of fertile eggs and total eggs, and embryonic mortality. Results indicated that dietary supplementation with different levels of oat powder resulted in significant improvement as concerns rates of fertility, hatchability of fertile eggs and total eggs, and embryonic mortality. Results of this experiment also denoted significant increase with relation to percentages of fertility, hatchability of fertile eggs and total eggs and significant decrease respecting embryonic mortality with the advancement of bird ages. However, it was noticed that there were no significant interactions between age of birds and treatment the birds with oat powder regarding all fertility and hatchability traits involved in this experiment. In conclusion the addition of oat powder to the diets of roosters and hens resulted in significant improvement with respect to rates of fertility, hatchability, and embryonic mortality. Therefore, oat powder can be used as on of important nutritive additions for improving rates of fertility and hatchability and embryonic livability.

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Part of M. Sc. Thesis of the second author.