EFFECTS OF ARTIFICIAL INSEMINATION ON PERFORMANCE OF BROILER BREEDERS

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Abstract

In this study 400 pullets of Arian and Ross308 lines were brought up to 18 weeks and then 50 were separated and translocated into individual cages to be fertilized by artificial insemination. Here there were 2 treatments for each line: 1: Breeding in Cage with artificial insemination (50 hens), 2: keeping in bed and natural mating (50 hens). Each treatment had 5 replications and each replication had 10 observations. There was a single control replication for each treatment too. The eggs were collected, every day, at a period of 180-420 days. Every weekend, the collected eggs were hold in hatchery and in 7, 11, 18 days, the embryonic loss percent and finally the total percent of hatchability and viability measured and then chicks were graded in 2 classes. The average of hatchability percentage in natural mating for Arian and Ross308 lines were 82.7 and 83.1, respectively, while in artificial insemination, these values were 87.2 and 89.4, respectively. The test show that hatchery percentage increased by artificial insemination. In the other hand, the data of this investigation shows that artificial insemination significantly decreased egg production, made thinner eggshell and decreased average weight egg of the lines ($p< 0.05$). Besides, artificial insemination increased bi-yolk egg production percentage and in general non standard eggs production in the lines. The percentage of losses during production in this case was greater than the poultry bred in bed with natural breeding, compared to control tester.
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Key word: broiler breeder, artificial insemination, hatchability, egg production, egg quality