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Determine effect of management method and additive Guanidino Acetic Acid (Creamino) on the broiler breeder fertility

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Abstract

This investigation was conducted in a completely randomized design. In order to habituate and create a standard and normalized condition the study was initiated at the age 38 weeks. Recording the experimental treatments was performed from week 41 to 62 post peak production using 400 hen parent stock Ross 308 and 50 considering the loss of 1 rooster per 8 chicken in 9 diet treatments with 6 replications (6 nests per square meter) and in each replicate 8 hen to 1 rooster with the total of 400 hens to 50 rooster (young and flock base). The experimental treatments included: control treatment, Spiking treatment, Intra-Spiking, 1200 and 1600 mg/kg Creamino, 1200 mg/kg Creamino + Spiking; 1600 mg/kg Creamino + Spiking; 1200 mg/kg Creamino + Intra-Spiking; 1600 mg/kg Creamino + Intra-Spiking. In this experiment the characteristics of egg numbers and egg weight with egg specific weight was positively affected by the experimental treatments of 1200 mg/kg of Creamino through the Intra-Spiking management method.

With the increase of age in hen parent stock egg weight was increased, but the amount of consumed food, egg numbers, specific weight of eggs and spent metabolic energy was reduced. The reason could be the positive significant correlation between the amount of the received energy and the number of produced eggs and the effect on fertility percentage, hatching and body weight. The Creamino additive supplement with management methods during rearing had significantly effects on the characteristics of infertility and egg fertility hatchability and hatch of fertility.

In this experiment the highest rate of hatching was correlated to the experimental Creamino through the management methods of Spiking. The results showed that the highest rate of hatching was due to the combination of Creamino and management methods of Spiking which was effective in flock fertility.

In this experiment through applying the Spiking management method and the additive supplement of Creamino the reduction of semen volume and the number of spermatozooids per ejaculation and the fertilizing ability of spermatozooids was prevented. The correlation of the thickness of fertile epithelium with the diameter of seminiferous tubules for spermocytes, spermatids and spermatozooids, showed the least in Intra-Spiking experiment and the most in the 1600 mg/kg of Creamino + Spiking among all other experiments.

Key world: Parent stock, Fertility, Creamino, Spiking, Intra-Spiking