

Effects of Aromatase Inhibitor on Morphology and Body Shape in Sex-Reversal Chicken: Gimmizah Strain

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Abstract : Aromatase inhibitors administered before sexual differentiation of the gonads in chicken embryo can induce sex reversal in female layer chickens (phenotypic male). To analyze the process of sex reversal, we have followed for several months the changes induced by Fadrozole, a nonsteroidal aromatase inhibitor on morphology of female sex-reversed and female sex-reversed supplemented with L-tyrosine which was previously shown to stimulate release of Gn Rh. Fadrozole (1mg/egg) was injected into eggs on day four of incubation before sex differentiation. phenotypic males and phenotypic males treated with L-tyrosine and males hatched from eggs injected Fadrozole were sacrificed by slaughtering at 16 weeks old and the remaining chicks were sacrificed at 28 weeks old. Both sexes from control chickens were sacrificed at the same age (16 & 28 weeks). Hatchability, behavior, body weight, shank length, comb weight, testes weight, blood cells count and wattle weight of sex reversal were tested at 16 and 28 weeks. The results showed that body weight, comb weight, wattles weight and shank length of sex-reversed females were significantly different from control female. Behavior of phenotypic males and phenotypic males fed on L-tyrosine showed aggressive sexual behavior like that of control males and absence of laying behavior. In conclusion our results confirm that Fadrazole injection in eggs before sex differentiation produce a male behavior and morphological index of male in female chicken.

Keywords : sex-reversal, fadrozole, phenotypic male, L-tyrosine

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