

## Alteration of Sex Steroid Hormone Levels in Sex Reversed Chickens

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**Abstract :** A total of eighteen (18) sex reversed chickens with unusual phenotypic characteristics of male birds were identified over 2000 Hyline layer chickens at Motaher Poultry Farm, Ramu, Cox's Bazar. Chickens were subdivided into two groups (case = 18, control = 20) based on the appearance of sex-reversed secondary sexual characteristics. Phenotypic traits of studied chickens were measured with farm management details. Hormone assay using ELISA, autopsy followed by gross examination of viscera was performed. The study found higher body weight (gm) (1579.3; 95% CI: 1561.7-1596.8), comb length (cm) (12.2; 11.5-12.8), comb width (cm) (7.9; 7.7-8.2), wattle length (cm) (4.9; 4.8-5.1) distinct spur, and shortened pubic bones distance, suggesting decrease oviposition in sex-reversed chickens. Testosterone concentration (ng/ml) (8.5; 6.4-10.6) was significantly higher ( $p < 0.001$ ) along with decrease estrogen (pg/ml) (5.1; 4.9-5.5) and progesterone concentration (pg/ml) (310.9; 289.4-332.5) in sex-reversed chickens. Mass abdominal fat deposition with atrophied ovary was found upon exploration of viscera.

**Keywords :** ovary, phenotypic traits, sex hormone, sex reversal

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