# AGONISTIC DISPLAYS OF TWO IMPROVED TROPICAL BREEDS OF POULTRY ADMINISTERED EXOGENOUS TESTOSTERONE

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**ABSTRACT**
*One hundred and fifty (150) Noiler and one hundred and fifty (150) Funaab Alpha birds were procured at Day old and reared in a farm stead at Aluu in Ikwere Local Area of River State. Between 10 to 14 weeks of age, the birds received weekly intramuscular injections of testosterone enathate at a dosage of 5g per kg live weight. The birds were fed a commercial starter and grower diet. A CCTV camera recorded the agonistic displays of the birds from the twelfth to fifteenth week at 700hrs and 1700hrs.It was observed that agonistic acts like Chases, Pushes, Kicks and pecks were higher in the birds that received testosterone in both breeds compared to birds in the Control that received no testosterone. The agonistic acts were however not a serious enough threat to the wellbeing and overall productivity of the birds*
**Key words: Agonistic, Noiler, Funaab Alpha, Testosterone**

## INTRODUCTION

Nigeria's population growth rate of 2.3% puts a lot of pressure on the Nigerian Livestock sector whose growth rate of 1.6% glaringly trails behind the population growth rate. Longe (2006) stated that meat yield of 1.6kg -1,8 kg per caput, was estimated to come from the poultry population. When converted to protein yield, the values were staggeringly low. Protein supply from livestock products (including supply from fish and wildlife) was estimated to be only 3.0g/caput/day in 1993 and a projection of 5.32g/caput/day was made for the year 2020 (Shaib *et al.*, 1997). This is a far cry from the 35g/caput/day recommended by the FAO. FAO (2013) revealed that *per capita* egg consumption in Africa was the lowest in the world and far below the world average egg consumption rate. This projection is a fair representation of the Nigerian picture, since one out of every four black African is a Nigerian.

Increased poultry production has been fingered as one of the surest ways of bridging this wide animal protein gap as poultry birds have a short gestation period, a short generation Interval, greater affordability, ease of raising and there are no cultural taboos against their production and consumption among most ethnic groups and religions. Essien, *et al* (2005) in a study to place meat from different species in Low, Medium and High preference groups, found out that poultry meat was in the high preference group among consumers in Calabar. This assertion holds for most other urban centers in Nigeria. In another survey to ascertain the position of meat from different poultry species on the preference scales of consumers in Calabar. Essien *et al.* (2008) found out that chicken was very high up the preference scales of consumers in Calabar.

Chicken meat is white, attractive and regarded as lean meat. It is better and safer than red meat and its protein content compares favorably with other meat species. Of particular note is the fact that its content of saturated fat is less than pork, beef and lamb. ACGG is a platform for testing, delivering and continuously improving tropically adapted chickens for productivity growth in sub-Saharan Africa. ACGG is part of the wider ''Live Gene'' initiative of the International Livestock Research Institute (ILRI) and has made available high-producing farmer-preferred genotypes that increase smallholder chicken productivity in Africa.

The science of genetics was used to develop Improved Tropically Adapted Breeds (ITABS) of chickens. These ITABS are Shika Brown, Funaab Alpha, Kuroiler, Sasso, Noiler and Fulani developed by National Animal Production Research Institute (NAPRI), Federal University of Agriculture, Abeokuta (FUNAAB), KEGGFARM, Sasso, Amoo farm and Obafemi Awolowo University respectively (Table 1).

**Table 1: Improved Tropically Adapted Breeds (ITABs)**

| ITAB | DEVELOPER |
|---|---|
| Shika Brown | NAPRI |
| Funaab Alpha | FUNAAB |
| Kuroler | KEGGFARM |
| Sasso | SASSO |
| Noiler | Amoo Farms |
| Fulani | OAU |

ITAB: Improved Tropically Adapted Breed;
FUNAAB: Federal University of Agriculture, Abeokuta;
OAU: Obafemi Awolowo University

A study to compare the behavioral responses of Improved Tropically Adapted Poultry Breeds to exogenous testosterone is necessary as steroids like testosterone are anabolic- leading to fast growth and a faster attainment of market weight (Adejumo and Egbunike, 1989., Ladokun *et al.*, 2012 Ladokun, 2006; Alabi *et al.*, 2012 Alabi *et al.,* 2006; Arshami *et al.,* 2009., Wingfield *et al.*,1987., Schlinger and Callard.1997., Ekeocha *et al.*, 2007). There is the need to investigate side by side, the effect of the administration of testosterone on aggression and agonistic behaviour because if energy and nutrients that should be used for growth are deployed on unproductive combats it will run counter to our objective of having increased meat production

## MATERIALS AND METHODS

The two poultry breeds were procured in the southwest of Nigeria. The Noiler breed (150) was obtained from Amoo farms Oyo, Oyo state Ibadan while the Funaab Alpha breed (150) was obtained from Federal University of Technology, Abeokuta (FUNAAB) in Ogun State and transported by road to Port Harcourt. The testosterone enanthate was obtained from a popular Pharmacy at Choba, Port Harcourt. Commercial feeds were procured at Boundary in Ikwere Local Government. The Agonistic acts like Kicks, Pushes, Chases and Pecks were observed visually and by a solar-powered CCTV camera from the 11th to the15th week of age. Testosterone enaanthate was administered once weekly by intramuscular injections at a dosage of 5g $kg^{-1}$ live weight.

## RESULTS AND DICUSSION

Agonistic acts like Kicks, Pushes, Chases and Pecks were higher in the testosterone-treated birds than birds in the Control for both breeds. They were also higher in the mornings than in the evenings. Steroids have been known to increase aggression (Adejumo and Egbunike,1989., Syteroid.com, 2010). But these agonistic acts did not impact negatively on the performance of the testosterone treated birds.

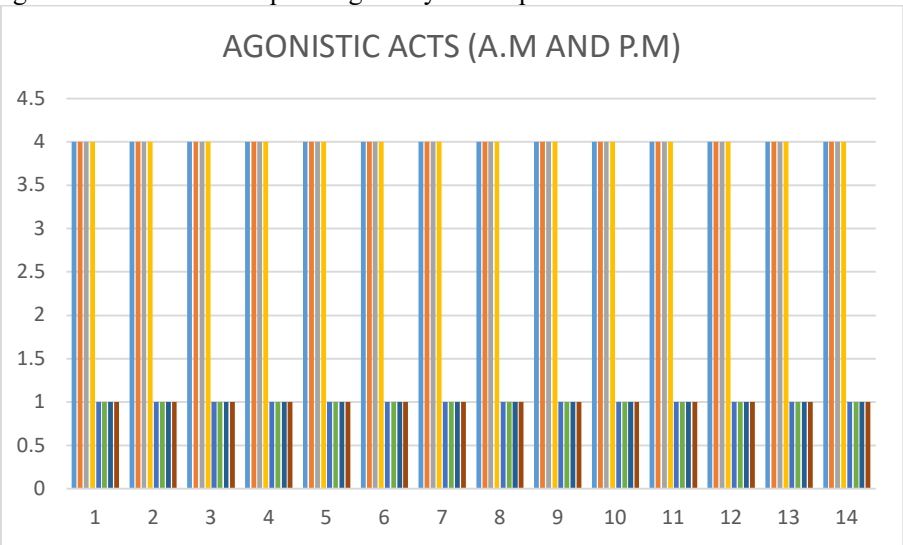


**Fig 1: Agonistic Displays of birds administered testosterone**

## CONCLUSION

The anabolic qualities of testosterone can be harnessed in enhancing growth, sexual maturity and quick attainment of market weight. The higher displays of agonistic acts among the testosterone treated birds did not negatively impact on these advantages of testosterone

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