



A Study on the weight of thyroid gland of Pati ducks (*Anas platyrhynchos domesticus*) in Assam at various age groups

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Abstract

In the present investigation, a total of 42 Pati ducks were utilized. The ducks were randomly divided into seven (7) groups consisting of six (6) birds in each group. The seven groups of birds were sacrificed at 7 different age viz. day old, 2 weeks, 4weeks, 8weeks, 20weeks, 30weeks and 40 weeks. The location and relative topographic in-situ position of the thyroid gland was recorded. Both the thyroid glands were taken out and the weight of each of them were recorded. The paired thyroid glands in the Pati ducks were located on either side of the trachea close to the vascular angle formed by the subclavian artery and common carotid artery. Weight of the thyroid gland also showed an increasing trend with age.

Key words:

Weight; Thyroid gland; *Pati* ducks

Introduction

Duck rearing plays an important role in the upliftment of the socio-economic condition of the rural population of Assam. The thyroid gland is a unique endocrine gland which plays an important role in carbohydrate, protein, lipo-regulatory mechanisms etc.relevant to growth. It is a critical organ for maintaining general metabolic rate and controlling pre and post natal growth and differentiation of many organ systems. Literature on the weight of thyroid gland in duck is scanty and therefore, this work was undertaken to study the age related developmental changes of thyroid gland in *Pati* ducks.

Materials and methods

The experimental birds were sacrificed according to the method of Gracey (1986). After slaughter, the birds were placed on a clean dissecting table, mid-ventral incision was put ;clavicle along with breast muscles were cut and were reflected carefully without disturbing the organs of the region. The thoracic cavity of each bird was exposed by making a ventro-median incision and then the thoracic muscular layers and air sac of the clavicle were reflected. The location and relative topographic in-situ position of the thyroid gland was recorded. Both the thyroid glands were taken out and the weight of each of them were recorded with the help of electronic pan balance. The data were analysed using the Statistical Analyses System version 9.3 (SAS 2012) for Microsoft Windows.

Results and discussion

The paired thyroid glands in the *Pati* ducks were located on either side of the trachea close to the vascular angle formed by the subclavian artery and common carotid artery. Similar observations were made by Raether (1964) in ducks. The thyroid glands were round, oval or elliptical and were reddish brown in colour. Similar findings were observed by Hodges (1974) in poultry. Weight of the thyroid gland also showed an increasing trend with increase in age. The average weight of the thyroid gland in day-old duckling was 0.0216 ± 0.0047 g and 0.0216 ± 0.0047 g for left and right respectively, while in case of 40 weeks old

ducks the corresponding values were 0.9816 ± 0.0047 g and 0.9816 ± 0.0047 g for left and right thyroid respectively. Increase in weight with age was in accordance to Nichols *et al.* (1949) who reported that the weight of the thyroid gland was almost directly proportional to body weight, length and age. The weight of right and left thyroid glands from day old to 40 weeks age groups of *Pati* ducks are shown in table 1.

Conclusion

In this study, the weight of the thyroid glands of both side in *Pati* ducks showed an increasing trend with increase in age.

References

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TABLE 1: SHOWING THE WEIGHT OF THE THYROID GLANDS OF RIGHT AND LEFT SIDE IN ASSAM *PATI* DUCKS AT DIFFERENT AGE GROUPS.

Experimental groups	Age	Weight of thyroid gland	
		Right	Left
I	Day old	0.021 ± 0.004^g	0.021 ± 0.004^g
II	2 weeks	0.056 ± 0.004^f	0.053 ± 0.004^f
III	4 weeks	0.120 ± 0.003^e	0.120 ± 0.003^e
IV	8 weeks	0.331 ± 0.004^d	0.338 ± 0.004^d
V	20 weeks	0.733 ± 0.002^c	0.738 ± 0.003^c
VI	30 weeks	0.853 ± 0.003^b	0.853 ± 0.003^b
VII	40 weeks	0.981 ± 0.004^a	0.981 ± 0.004^a

Means with different superscripts are significantly different from each other.