

Qualitative and Quantitative Characteristics of Dabung and Patemon Ducks in Bangkalan District

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Abstract: Bangkalan district had potency of local duck namely Dabung and Patemon ducks. The present study was conducted to evaluate the qualitative and quantitative characteristics of Dabung and Patemon ducks. Materials used in this study were 40 Dabung ducks (20 males and 20 females) and 40 Patemon ducks (20 males and 20 females), aged at 7-9 months old. Method used was case study. Qualitative characteristic of Dabung and Patemon ducks, both of male and female, had different feather color in head, neck, body, wings and tail. Body weight of male Dabung and Patemon ducks had significant difference ($P < 0.05$), with male Dabung duck had higher body weight compared to Patemon duck. Whereas, female Dabung and Patemon duck had no significant difference ($P > 0.05$). It could be concluded that the differences of feathers color between Dabung and Patemon ducks could be used as livestock identity. Male Dabung duck had higher body weight compared to male Patemon duck, while female of Dabung and Patemon ducks had similar body weight. Dabung duck had a potency as egg-type duck, while Patemon duck had a potency as meat-type duck.

Keywords: Dabung Duck, Patemon Duck, Qualitative, Quantitative, Characteristics.

INTRODUCTION

Livestock and Animal Health Agency of Bangkalan Regency reported that there are 2 types of poultry that had always been domesticated in the area, which usually called by Dabung and Patemon ducks. Bangkalan District received the aid of Mojosari ducks in 1986-1988.

Mojosari duck which had high productivity, hopefully could increase the duck population and in the same time also could improve the genetic quality of local ducks. Crossbred of local and Mojosari ducks could survive and reared in the Debung Village, Geger Subdistrict, so the people know the duck with the name of Dabung duck. The names of Dabung and Patemon ducks are derived from the name of the villages where they are reared (Abdurrahman and Hamdan, Personal Communication).

Dabung duck spread in Geger, Tanah Merah, Blega and Konang Subdistrict. Mature Dabung duck had body weight in the range of 1.7 to 2.5 kg, day old duck (DOD) had body weight between 35 to 45 g, egg weight was between 60 to 70 g, egg shape index was $\pm 76\%$ and the eggshell color is white. Whereas, mature Patemon duck had body weight between 1.7 to 2 kg, egg weight in the range of 60-70 g, egg shape index was $\pm 76\%$ and the eggshell color is white [1].

Duck farming had some advantages including low mortality, good adaptation and resistance to disease [2]. Egg-type duck should have high egg production, long production period, and large egg weight [3]. While meat-type duck should had the characteristics such as rapid growth, large body size and had a thick meat [4]. Currently, the potency of Dabung and Patemon ducks as egg-type or meat-type ducks are still not understandable yet, therefore this study was conducted to evaluate the qualitative and quantitative characteristics of Dabung and Patemon ducks.

MATERIALS AND METHODS

Location, Time and Birds

This study was located at Mr. Hamdan's Farm, Nyiurmanis Village, Blega Subdistrict, Bangkalan District, East Java Province, Indonesia. Materials used in this study was 40 Dabung ducks (20 males and 20

females) and 40 Patemon ducks (20 males and 20 females), aged at 7-9 months old.

Method

Method used in this study was case study at Nyiurmanis Village, Blega Subdistrict, Bangkalan District, East Java Province, Indonesia

Sampling Procedure

Sampling procedure was done by purposive sampling. The sample was taken according to certain consideration such as characteristics which was already known before.

Variables

Variables observed were body weight and the color of beak, feather and shank. Body weight was measured by using electrical balance. The color of beak, feather and shank were measured by using direct observation.

Table-1: Qualitative characteristic of Dabung and Patemon ducks

Qualitative characteristics	N	Dabung		Patemon	
		Male (duck)	Female (duck)	Male (duck)	Female (duck)
Color of body feather					
Gray	20	20	-	-	-
Brown striated with black	20	-	20	-	-
Grayish black	20	-	-	20	-
Black striated with brown	20	-	-	-	20
Color of wings feather					
Black striated with brown	20	-	-	20	20
Brown striated with black	20	-	20	-	-
Blackish gray	20	20	-	-	-
Color of head and neck feathers					
Grayish black	20	2	-	-	-
Black with white (necklace)	20	-	-	18	18
Black without white (necklace)	20	-	-	2	2
Black	20	18	-	-	-
Brown	20	-	20	-	-
Color of beak					
Yellow, black in the tip	20	19	20	19	15
Dark yellow, black in the tip	20	1	-	1	2
Black	20	-	-	-	3
Yellow	20	-	-	-	-
Color of tail feather					
Black and white	20	20	-	-	-
Brown striated with black	20	-	20	-	-
Black	20	-	-	20	20
Color of shank					
Yellow	20	20	20	1	-
Dark yellow	20	-	-	19	20
Yellow with black spot	20	-	-	-	-

RESULTS AND DISCUSSIONS

Qualitative Characteristic of Dabung and Patemon Ducks

Qualitative characteristic of Dabung and Patemon ducks in Bangkalan District is presented in Table 1. Qualitative characteristic of male duck (Table-1) showed that 100% of male Dabung duck had gray body feather, while 100% of male Patemon duck had grayish black. Wings feather of male Dabung duck had blackish gray (100%), while male Patemon duck had black striated with brown (100%). Head and neck feather of male Dabung duck was dominated by black (80%), while the rest was grayish black (20%). Head

and neck feather of male Patemon duck was dominated by black with the present of white feather in the neck (80%) and the rest was black (20%). White feather in the neck (called by necklace) became specific characteristic of male Patemon duck. Beak of male Dabung and Patemon ducks were dominated by yellow with black spot (95%) and the rest was dark yellow with black spot (5%). Tail feather of male Dabung duck was dominated by black and white (100%), while Patemon duck was dominated by black (100%). The color of shank of male Dabung duck was yellow (100%), while Patemon duck was dominated by dark yellow (95%) and the rest was yellow (5%). Qualitative characteristic

of male Dabung and Patemon ducks had differences in the color of body feather, wings feather, head feather, neck feather, tail feather and shank. Body feather of Dabung duck was close with Mojosari duck, which had body feather with whitish gray color [5].

Qualitative characteristic of female duck (Table-1) showed that there were differences between feathers color of Dabung and Patemon ducks. Body and wings feathers of female Dabung duck was dominated by brown striated with black (100%), while female Patemon duck was dominated by black striated with brown (100%). Dabung duck had a predominantly brown feather, whereas Patemon duck had a dominant black feather. Head and neck feather of female Dabung duck was brown (100%), while female Patemon duck predominately had black feather with white necklace (90%) and the rest had black feather (10%). White necklace feather became specific characteristic for female Patemon duck. The color of beak of female Dabung duck was yellow with black spot (100%), while female Patemon duck was yellow with black spot (75%), dark yellow with black spot (10%) and black (15%). The color of tail feather of Dabung duck was brown striated with black (100%), while Patemon duck

was black (100%). The shank of female Dabung duck was yellow (100%), while Patemon duck was dark yellow (95%) and the rest was yellow (5%). The color of body feather of female Dabung duck was close with Mojosari and Tegal ducks. Body feather of Mojosari duck was brown with black spot [6], while Tegal duck was brown with thin black spot [7].

Quantitative Characteristic of Dabung and Patemon Ducks

The average body weight of male, female and day old duck of Dabung and Patemon ducks is showed in Table-2. The result of t-test on duck body weight of male Dabung and Patemon ducks (Table-2) was significantly different ($P < 0.05$). Body weight of male Dabung duck was higher than male Patemon duck, while body weight of female Dabung and Patemon ducks was not significantly different ($P > 0.05$). Body weight of male and female Dabung duck (Table-2) was higher than Mojosari, Alabio and Tegal ducks. Mature body weight of Mojosari ducks was 1.7 kg, male Alabio duck was 1.7 kg and female Alabio duck was 1.6 kg [3]. Tegal ducks had lower mature body weight with 1.4-1.5 kg [8].

Table-2: Body weight of male and female mature Dabung and Patemon ducks

	Male $\bar{X} \pm sd$ (kg/duck)	Female $\bar{X} \pm sd$ (kg/duck)
Dabung duck	1.81±0.07 ^a	1.64±0.10 ^a
Patemon duck	1.70±0.08 ^b	1.61±0.08 ^a

Note: ^{ab}different superscripts within column showed significant difference ($P < 0.05$)

Body weight of male and female Patemon ducks (Table-2) were close with the body weight of male Mojosari duck (1.6 kg) and female Mojosari duck (1.7 kg) [9]. Body weight of Patemon duck which was close with Mojosari duck may be due to the result of crossbreeding with Mojosari duck.

Dabung duck had slow body weight gain on the starter phase, but after more than 3 months, Dabung duck could growth rapidly (Hamdan, Personal Communication). This was in accordance with the present finding, at the first week of age, Patemon duck had higher body weight gain with 44.2 g/week, while Dabung duck had 24.4 g/week. At the 7 weeks old, male Patemon duck had 844.76 ± 12.28 g and female had 815.12 ± 11.00 g of body weight, which was higher compared to Dabung duck at the same age. Male Dabung duck had 777.28 ± 11.04 g and female had 751.4 ± 10.99 g of body weight. The higher body weight gain in the starter phase is one of the criteria of meat-type duck, therefore Patemon duck could be used as meat-type duck.

The duck with slow body weight gain at the starter phase is not suitable to be used as meat-type duck. Dabung duck could be used as egg-type duck due

to the greater egg weight and egg shape index to Patemon duck. On the other hand, the egg weight of Dabung duck was lighter than Mojosari and Alabio ducks. Mojosari duck had egg weight of 65-70 g [6], while Alabio duck had 59-65 g of egg weight [3]. Higher egg weight could produce higher hatch weight and also could increase the income of farmer when egg was sold for consumption.

CONCLUSIONS

- Qualitative characteristic of Dabung and Patemon ducks, both of male and female, had different feather color in head, neck, body, wings and tail, therefore it could be used as livestock identity. Male Dabung duck had higher body weight compared to male Patemon duck, while female of Dabung and Patemon ducks had similar body weight
- Dabung duck had higher egg weight and egg shape index, thus potentially used as egg-type duck. Whereas, Patemon duck had higher body weight gain in starter phase, which could potentially used as meat-type duck.

REFERENCES

1. Hertzman EZ. *Pulang Kampung (Returning Home): Circuits of Mobility from a Chinese Town in Indonesia* (Doctoral dissertation, University of Toronto (Canada)) ; 2017.
2. Mulatsih S, Sumiati and Tjakradijaja. Intensification of duck farming in order to increase household income (in Bahasa Indonesia). Final Report of Science and Technology Program for Society. Bogor Agricultural University. Bogor; 2010.
3. Haqiqi SH. Understanding some types of local laying duck (In Bahasa Indonesia). Faculty of Animal Husbandry. University of Brawijaya Malang; 2008.
4. Purba M, Prasetyo LH. Respon pertumbuhan dan produksi karkas itik pedaging EPMP terhadap perbedaan kandungan serat kasar dan protein dalam pakan. *JITV*. 2014;19(3):220-30.
5. Suryana. Utilization of Genetic Diversity To Increase Alabio Duck Productivity. *Journal Litbang Agriculture* ; 2013. 32 (3): 110-111.
6. Decree of the Minister of Agriculture of Indonesia, No. 2837/Kpts/LB.430/8/2012. Establishment of the clump of Mojosari duck (in Bahasa Indonesia). bibit.ditjenpkh.pertanian.go.id/sites/default/files/Itik%20Mojosari.pdf. Access 9 Januari 2018
7. Decree of the Minister of Agriculture of Indonesia, No. 2922/Kpts/OT.140/6/2011. Establishment of the clump of Tegal duck (in Bahasa Indonesia). bibit.ditjenpkh.pertanian.go.id/sites/default/files/Itik%20Tegal.pdf. Access 9 Januari 2018.
8. Hidayat NN, Enny YW, and Sri I. Comparison of meat quality of Magelang duck, Pengging duck and Tegal Ducks (in Bahasa Indonesia). *Bioma*, 2016; 18(1):56-63.
9. Prasetyo LH, Susanti T. Reciprocal crosses between Alabio and Mojosari ducks: early egg production. *Indonesian Journal of Animal and Veterinary Sciences*. 2000;5(4):210-4.