

The Characteristic of Farming System for The *Walik* Chicken in West Java, Indonesia

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Abstract

The Walik chicken is one of rare indigenous chicken breeds found in Indonesia. The limited information on the management practices of the Walik chickens applied by the farmers in Indonesia cause the difficulty to predict their potency of conservation and utilization. Therefore, this study investigated the characteristics of the farmers, and the practice of the Walik chicken farming, and their potency of utilization. Thirty three (33) farms from Sumedang District, West Java were surveyed. Their main occupations of the farmers were labor in agricultural field (46.15%), private sector (30.77%), and house mother (23.08%). A mean flock size of Walik chicken per household was 4.15, varying from 2-7 chickens. Farmers applied non traditional (73%) by using commercial medicaments, and traditional (27%) health care and management to prevent and control diseases of the chickens. However, none of the farmers applied the vaccination program. Traditionally, most of the farmers (64%) selected the chicken breeds by their own traditional knowledge. Broken rice, rice hulls, and household by product were feedstuffs provided for the chickens. The mean of egg production, and hatchability of semi-intensive were 11 eggs/clutch/hen (31 eggs/hen/year), and 92,71%, respectively. The Walik chicken farming is important for household income. Improvement in rearing management practices should be done to increase the productivity of the Walik chicken. Giving education for improved management system is also an alternative strategy to increase chicken productivities and household income.

Key words: Walik chicken, farming system, egg production, hatchability

Introduction

In Indonesia, *Walik* chicken breed that owns a frizzling type of feather is considered as endangered population, reason for which we consider that a special attention should have been given to save it. The unique characteristics of frizzle causes the chickens are more tolerance to high temperature, however this properties are not utilized yet in Indonesia since there is limited data on their characterization and identification of their characteristics, farming system applied, and their utilization. The very small population of this breed in a certain warm geographic areas of Indonesia, such as Sumedang District, causes the chickens are unfamous breed recognized by the people.

The Strategic Priority 5 of the *Global Plan of Action* (FAO, 2007) adopted by the International Technical Conference on Animal Genetic Resources for Food and Agriculture, acknowledges the contribution of livestock keepers in indigenous and local production systems to the domestication, development, maintenance and conservation of animal genetic diversity. Moreover, Weigend and Romanov (2001) argued that the possession of chicken traits in relation to current and future value and socioecultural importance is one of the crucial inputs for decisions on chicken conservation and utilization. The limited information on the management practices of the *Walik* chickens applied by the farmers in Indonesia cause the difficulty to predict their potency of conservation and utilization. Therefore, this study investigated the characteristics of the farmers, and the practice of the *Walik* chicken farming, and their potency of utilization.

Materials and Methods

The purposive sampling method was chosen to select the study areas of the research. The initial survey to identify the individual households kept the *Walik* chickens was done by interviewing to the head of villages, and the oldest people in a society who know well the people in the study areas as described on the snow ball methods. Thirty three (33) farms from 3 sub-districts (Padanaan, Palasah, Ujungjaya dan Keboncau), Sumedang District, West Java were surveyed in June-August 2009. The data of farm characteristics, household flock characteristics, farming system, and chickens performances and chickens utilization were recorded during the research, and then analyzed descriptively.

Results and Discussion

Farmers Characteristics

Thirteen farmers were divided into 2 classes of productive age, 9 (69.23%) and 4 (30.77%) farmers composed as productive age (17-55 years old), and unproductive age (>55 years old) respectively (Tabel 1). The youngest was 38 and the oldest was

68 years old). The range of their ownership was 98-5.110 m². Their main occupations were labor in agricultural field (46.15%), private sector (30.77%), and house mother (23.08%).

The chickens farming system applied by the farmers were extensive (7.69%), semi intensive with scavenging and backyard system (84.62%), and intensive (7.69%), wherein the women were predominantly (61.54%) as the keeper of the chicken under the scavenging, and backyard system. Women, who have to do a lot of the work involved in caring for the chickens, have good mothering instincts and provide chicken meats and eggs that can be used for sold in the market. However,

Table 1. The Characteristics of Farmers Surveyed

No	Farmer Characteristics	Number of farms surveyed		Farming System (Farm)		
		Farm	%	Semi Intensive*	Intensive	Extensive
1	Age					
	17 - 55 year	9	69.23	8	1	-
	> 55 year	4	30.77	4	-	-
2	Sex					
	Male	5	38.46	3	1	1
	Female	8	61.54	8	-	-
3	Education background					
	Illiteracy	1	7.69	1	-	-
	Elementary School	9	69.23	8	-	1
	Junior High School	1	7.69	-	1	-
	Senior high school	1	7.69	1	0	-
4	Occupation					
	Labor in agricultural field	6	46.15	6	-	-
	Household mother	3	23.08	3	-	-
	Private sector	4	30.77	2	1	1
5	Farming system					
	Intensive	1	7.69	-	-	-
	Semi Intensive*	11	84.62	-	-	-
	Extensive	1	7.69	-	-	-
6	Purpose of farming					
	Household consumption	1	7.69	1	-	-
	Trade	12	92.31	10	1	1

Note: *Scavenging and backyard system

due to the low input management system, chicken productivities appears still very low.

Most of the farmers (45%) stated that the *Walik* chicken farming is important for their income since the main purpose of *Walik* chicken farming is for trading (92.31%) as meat and egg producers, instead of for household consumption (7.69%). Some farmers sometimes had difficulties in trading since most consumers often judge the *Walik* chicken as the unhealthy chickens due to the frizzling type of their feather. However, others earn high price in trading since some consumers also prefer the chickens as an exotic birds, and for cultural and religion purposes. The data provided by local Livestock Department Services of Sumedang District, West Java (2009) does not break down the population for each type of chicken, but it is believed that *Kampung* is the most popular indigenous chicken since other indigenous chickens are only occasionally found in certain areas and their population is low.

Rearing Management, Flock Size and Egg Production Potency

A mean flock size of *Walik* chicken per household was 4.15, varying from 2-7 chickens. During study, the *Kampung* chickens were also kept by the farmers, and predominant (133 head; 66.52%) to *Walik* chickens (60 head; 29.56%). The *Kate* chickens were also kept by the farmers (10 head; 4.92%). For men, chicken farming is only the second job therefore men usually had limited work power which allows only for part-time activities therefore the chicken population, and productivities were still low. Women stated that limited space and money for chicken farm investment are the reasons they do not increase their chicken population. In another work, Muladno and Thieme (2009) found that the reasons for not having larger flocks of local chickens include among others are the limited space in their house's yard, not enough money to invest in a chicken farm and, and limited work power which allows only for part-time activities.

Under semi extensive system, the chickens are housed in an open-fenced area, which resembles a ranch and is usually built in the backyard of the farmer's house. In some cases, colony cages are provided to allow chickens to sleep at night. In most cases, there are no cages available and the chicken sleep everywhere on the farm, such as kitchen, around farmer houses.

Farmers provide feed and drink regularly 1 time to 3 times a day. Broken rice, rice hulls, and kitchen waste were feedstuffs provided for the *Walik* chickens under extensive and semi-intensive system. Besides, the chickens also scavenge for feed insects, worms, grasses and vegetables around the farmer houses. Farmers applied non traditional (73%) by using commercial medicaments, and traditional (27%) health care and management to prevent and control diseases of the chickens. However, none of the farmers applied the vaccination program. Therefore, the mortality of chicks is usually high during 3-6 months of age due to diseases (mainly New Castle Diseases and Coryza), and also predator.

Most of farmers (64%) bought the chickens from local markets, whereas the rest (36%) got the chickens as a present from their relatives. Traditionally, most of the farmers (64%) select the chicken breeds by their own traditional knowledge. Despite the absence of recording, farmers often memorize the ancestry of their chickens in great detail and over several generations. Introduction of good native chicken breeding practice (Deptan 2006) is therefore still needed to improve better understanding of the farmers on chicken selection.

The mean of egg production, and hatchability of semi-intensive were 11 eggs/clutch/hen (31 eggs/hen/year), and 92,71%, respectively. This egg production was lower compared to another indigenous chicken such as *Kampong* chicken (59 eggs/hen/year) (Diwyanto & Prijono 1996). In general, under natural condition, the *Walik* chicken brood for between 21-23 days, and chicks remain with their mothers for a period of 2-3 months, after which period the hen will start the next egg laying period. Poor nutrition and the absence of disease prevention or control measures contribute to this low production. Diwyanto *et al.* (1996) also reported that the productivity of local chicken in semi intensive and intensive systems is better than in extensive system. However, Mansjoer (1989) found that the chicken maintained under intensive system were inefficient in their feed consumption and had higher feed conversion ratios than commercial chicken breeds. Improvement in rearing management practices should be done to increase the productivity of the *Walik* chicken.

Conclusions

The *Walik* chicken farming is important for household income. The chickens rearing system applied by the farmers were extensive, semi intensive with scavenging and backyard system, and intensive, wherein the women were predominantly as the keeper of the chicken under the scavenging, and backyard system. Improvement in rearing management practices should be done to increase the productivity of the *Walik* chicken.

Acknowledgement

The authors thank the local government of Livestock Department Services of West Java for supporting the annual population data of local chickens in Indonesia. The authors also thank to the *Walik* chicken farmers for a very good cooperation and helping during field survey.

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