

A STUDY ON THE PERFORMANCE OF EXOTIC AND INDIGENOUS CHICKEN UNDER SCAVENGING METHOD

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ABSTRACT

A study was conducted on the performance of exotic laying birds under scavenging systems at Sharishabari, Jamalpur during July, 2005 to June, 2006. For this purpose four exotic (three female and one male) and three local birds were provided to the six landless and six marginal cooperator farmers whereas six landless and six marginal non-cooperator farmers were considered as control. The average mortality in exotic chicken was 55% in case of local breed. The body and egg weight of exotic birds (1.65 kg and 56 gm respectively) were higher than the local breed (1.00 kg and 54 gm respectively). The average egg production per year was found to higher in exotic (84) than the local breed (62). But the benefit cost ration of exotic was found to be lower (1.36) than the local breed (1.46).

Keywords: Performance, Exotic, Indigence, Chicken, scavenging and Method

INTRODUCTION

The economy of Bangladesh is a agro-based. About 52% of the Gross Domestic Product (GDP) comes from agricultural sector of which crops alone shares 38.8% livestock 6.5% fisheries 3.5% and forestry 3.2% (Sikder, 1990). The livestock enterprise is secondary to crop production and provides the needed energy for most have frame work such as ploughing, threshing, road transport etc. Poultry is an important sub-system of livestock. Traditionally, poultry is reared by almost all the rural families and particularly by landless people in Bangladesh. The net population of chicken in Bangladesh is approximately 90 million (Ahmed, 1990). It plays an important role in the upliftment of socio-economic conditions and narrows the gap of animal protein requirement in human diet. The nutritional and disease problem are the major constraints in Bangladesh for the development and maintenance of poultry. In Bangladesh commercial poultry farms are few and most of our demand is fulfilled from the rural source where the farmers rear the chicken under the scavenging system. Suitable breed and proper knowledge of management results in profitable poultry production (Mahapatra, 1990) which are lacking in traditional poultry rearing systems. The productivity of indigenous birds are very low having annual laying capacity of about 35-45 small size eggs per bird and the body weight of the male and female bird is about 1.82 kg and 1.30 kg respectively (Amin, 1990).

Exotic breeds like Australop, Rhode Islan Red and White Leghorn etc. are suitable for commercial poultry farm (Latif, 1981). These breeds are not well adjusted to farmers condition of rearing. The exotic breed (Rhode Island Red × Fahyomi) has shown good performance under farm condition. Therefore, it was decided to test the performance of exotic chicken under scavenging system of rearing.

MATERIALS AND METHODS

The study was conducted at Sharibari, Jamalpur during July 2005 to June, 2006 with six landless and six marginal farmers. Four exotic chicken (three female and one male) and three local birds were

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supplied to each of the farmers. Another six landless and six marginal non-cooperator farmers were considered as control. Exotic chicken was supplied from Bangladesh Agricultural University Central Poultry Farm and the local birds were arranged by the farmers themselves. Both the exotic and local birds were reared in scavenging system. Regular monitoring was done during the whole period of the experiment. The birds were vaccinated regularly. Data on body weight, egg production, disease and mortality were collected.

RESULTS AND DISCUSSION

The results revealed that the mortality rate in exotic chicken (55%) was higher than the local breed (29%). Total damage in exotic and local breed was observed more incase of breed supplied to the landless cooperator farmers. This damage was caused mainly by disease and predator in exotic chicken. Predator attack was higher (17%) than the local breed (11%) (Table1). However, there was no difference in the occurrence of diseases in chicken reared by the cooperator (18%) and non-cooperator farmers (17%). At the start of the experiment (initial time) body weight of the exotic chicken was comparatively lower, but at the end of the experiment the exotic chicken achieved a higher body weight gain (1.65 kg/bird) that the local breed (1.0 kg/bird). The non-cooperator farmers had no exotic breed. The highest body weight of 0.98 kg/bird was found from the poultry of marginal cooperator farmers.

From Table 2 it was observed that the onset of egg laying in exotic chicken was delayed (7.0 moths) than the local one (6.5 months). The average egg production per bird per year of exotic chicken was 84, whereas incase of local breed it was only 62. The egg weight of exotic was a little higher (56 g) than the local breed (54g). The average egg weight of birds reared by both the cooperator and non cooperator farmers was identical (54 g). The mortality of the exotic chicks (67%) was higher than the local breed (61%).

The economic data was calculated on the basis of current market price of chicken and eggs. From the economic data it was observed that the average gross return from the exotic chicken was Tk. 511/-, whereas from the local breed it was Tk. 480/- only. However, the non-cooperator farmers got a higher return (Tk. 546). The highest net return of Tk. 294/ was obtained from the exotic chicken with the benefit cost-ratio of 1.36 Although the local breed gave the lowest net return, it produced higher benefit cost ratio (1.46) in case of cooperator farmers. But he average net return of the non-cooperator farmers was higher (Tk. 338/-) than the cooperator farmers and the benefit cost ratio (1.73) was also higher (Table 3). From the data it was evident that the exotic bird was affected more by the predators and more susceptible to diseases then the indigenious chicken (local)

Table: 1 Primary information about poultry at Sharishabari, Jamalpur

Category	No. of poultry supplied		Damage by (%)				Total damage (%)		Body weight (kg)			
			Disease		Predator				Initial		Final	
	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local
Landless Cooperator	24	26	42	19	17	12	59	31	0.35	0.42	1.65	1.00
Marginal Cooperator	24	30	33	17	17	10	50	27	0.35	0.42	1.65	1.00
Average	24	28	38	18	17	11	55	29	0.35	0.42	1.65	1.00
Landless Non-cooperator	-	30	-	17	-	10	-	27	-	0.40	-	0.95
Marginal Non-cooperator	-	36	-	17	-	8	-	25	-	0.42	-	0.98
Average	-	33	-	17	-	9	-	26	-	0.41	-	0.97

Table 2. Production performance of poultry at Sharishabari, Jamalpur

Category	Total no. of egg per farm family		Average egg per bird per year		Egg weight (g)		Total no. of egg per farm family		Chicks mortality (%)		Age at 1 st egg laying (month)	
	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local
Landless Cooperator	98	95	83	61	56	54	14	18	65	61	7.0	6.5
Marginal Cooperator	128	120	85	63	54	54	16	20	69	60	7.0	6.5
Average	113	108	84	62	56	54	15	19	67	61	7.0	6.5
Landless Non-cooperator	-	114	-	60	-	54	-	21	-	57	-	6.5
Marginal Non-cooperator	-	126	-	62	-	54	-	25	-	64	-	6.5
Average	-	120	-	61	-	54	-	23	-	61	-	6.5

Table 3. Economic analysis of poultry rearing at Sharishabari, Jamalpur

Category	Total variable cost (Tk)		Gross return (Tk)		Net return (Tk)		Benefit cost ratio	
	Exotic	Local	Exotic	Local	Exotic	Local	Exotic	Local
Landless Cooperator	215	190	496	450	281	260	1.31	1.37
Marginal Cooperator	218	200	525	510	307	310	1.41	1.55
Average	217	195	511	480	294	285	1.36	1.46
Landless Non-cooperator	-	185	-	512	-	310	-	1.77
Marginal Non-cooperator	-	215	-	580	-	365	-	1.70
Average	-	200	-	546	-	338	-	1.73

It can be concluded that the performance of exotic chicken was not up to the mark. It might be due to lack of balance feed for the birds. It is suggested that exotic chicken should be reared in confined condition with a balanced ration.

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