

Analytical study of Front Line Demonstration (FLD) of Kadaknath Poultry Farming under climatic conditions of Tonk District of Rajasthan

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Abstract

Kadaknath is a hardy breed so it is adaptable to all climatic conditions and it has high resistance to disease. Meat quality is highly appreciated for its distinctive taste, texture and flavor. The flesh of this breed is black in color and it's believed to have medicinal value. The study was conducted at 5 tehsils (Tonk, Uniara, Todarai singh, Deoli and Malpura) of Tonk district of Rajasthan. Five hundred chicks of twenty one day old were purchased from Krishi Vigyan Kendra, Jhabua (M.P.). One group of ten farmers was selected from each tehsil. 10 chicks were provided to each farmer which was broiler and layer mixed. The findings of Lava village group in I, II, III, IV, V and VI month was found to be 540±23g, 540±16g, 540±23g, 760±19g, 730±19g and 740±19g fed vermin waste to the poultry chicks and other essential contents of diet were similar with other groups. In case of meat it was excellent growing compare than every group because Lave village group was providing vermin waste which contained more amounts of proteins, vitamins and minerals. It is clear from above table that the findings of Jalseena village group in I, II, III, IV, V and VI month was found to be 480±20, 420±22, 540±18, 410±14, 430±18 and 450±20 fed pond waste to the poultry chicks and other essential contents of diet were similar with other groups. In case of Jalseena village group meat was slowly growing compare than Lava village group because Lava village group was providing vermin waste which contained more amounts of vitamins and minerals. All over results of Jalseena group was satisfactory performance and Chooli village group was slowly growing. Lava village group reported that the number of egg was 08±02, 10±02, 11±01, 11±02, 10±02 and 10±02 respectively in six months with an average of 10±02. The performance of Lava village group was excellent in comparison with every group.

Keywords: Analytical, FLD, Kadaknath, Poultry Farming, Climatic conditions

Introduction

There is a large commercial chicken industry that provides us with eggs and meat. A major constraint to poultry production is the high value placed upon crop production rather than livestock production. Over recent decades the poultry industry has made tremendous adjustments to meet the increasing demand for inexpensive and safe supply of meat and eggs. The developing world currently produces 50 percent of the world's beef, 41 percent of the milk, 59 percent of the pork and 53 percent of the poultry (Herrero et al., 2009).

The preliminary investigation indicates that severe health disorders have been identified in all Tehsils area of Tonk district of Rajasthan due to excess intake of fluoride through drinking water.

Most of this growth will be in white meat, mostly in East and South Asia, and Latin America

(Delgado, 2003) and will be based on industrial, vertically integrated, large-scale livestock production (Steinfeld, 2003). Such increases are unlikely to benefit poor developing communities because of costs and poor market development. Increased animal production by smallholder farmers has been proposed as holding the greatest promise of improving the diet of poor rural communities (Neumann et al., 2003). Animals reared in intensive production systems consume a considerable amount of protein and other nitrogen-containing substances in their diets. The conversion of dietary nitrogen to animal products is relatively inefficient; 50 to 80 percent of the nitrogen is excreted (Arogo et al., 2001).

Sluis & van der (2003) showed that it is reported that despite the fact that India's poultry industry is the fastest growing in the world; the sector's



Fig.1. Kadaknath breed of poultry



Fig.2. Kadaknath poultry breed carcass, egg and meat peaces

potential to attract big-time foreign investment is negligible and will necessitate a host of changes, including greater integration, better cost-efficiencies and improvement in distribution.

The low productivity of scavenger chickens in developing countries is often blamed on the lack of concentrated diets (Badubi and Rakereng, 2006). The diet of scavenger chickens contain, for example, crude fiber levels up to more than 100g/kg dry matter (Dessie and Ogle, 2001). While Jorgensen *et al.* (1996) reported that broilers (by fermentation of three different non-starch polysaccharide (NSP) rich substrates: pea fibre, wheat bran and oat bran) extract a maximum of 42kJ/d, representing only 3 to 4% of the daily metabolisable energy intake, hereby confirming the widely accepted idea about the low energetic value of NSP-rich diets for poultry.

Materials Methods

The area under this study is Tonk District, Rajasthan, which is located in Eastern part of the state between 75 0 07' 00" E to 76 0 19' 00" E and 25 0 41' 00" N to 26 0 34' 00" N. The total geographical area covered by the District is 7194 km². The climate of the area is semiarid type. The average annual rainfall of the district is 598 mm. The area is having general flat to undulating topography. The Banas River, 135 kms in length, is major one running through Tonk district (Sharma *et al.*, 2015). The study was conducted at 5 tahsils (Tonk, Uniara, Todarai singh, Deoli and

Malpura) of Tonk district of Rajasthan. There was twenty one days old 500 poultry chicks purchased from Krishi Vigyan Kendra, Jhabua (M.P.). One group of 10 farmers was selected from each tahasil. 10 poultry chicks were provided to each farmer which was broiler and layer mixed.

Table 1: Poultry chicks distribution

S. No.	Name of Tahsil	Name of Group	No. of Beneficiary	No. of poultry chicks
1.	Tonk	Oum village	10	100
2.	Uniara	Sop village	10	100
3.	Malpura	Lava village	10	100
4.	Devali	Jalseena village	10	100
5.	Toda rai singh	Chooli village	10	100

All farmers were using normal diet to poultry rearing which were available in rural areas and waste material also added in the diet.

Results and Discussion

The aim of this study was to present the production results of laying hens and broilers reared under different group of villages in Tonk district.

It was observed from table 2 that the monthly increased weight of broilers under Oum village group in I, II, III, IV, V and VI month was found to be 480±22g, 480±14g, 640±09g, 710±22g, 720±20g and 730±21g respectively fed crop waste to the poultry chicks and other essential contents of diet were similar

Table 2: Analysis of meat production

S. Tahsil No.	Group	Waste	Meat production (weight gain monthly in Grams)						Overall Average (kg)
			I	II	III	IV	V	VI	
1. Tonk	Oum	Crop waste	480±22(100)	480±14(100)	640±09(100)	710±22(100)	720±20(100)	730±21(100)	3.76±0.189(100)
2. Uniara	Sop	Fish waste	530±25(100)	530±24(100)	620±12(100)	750±25(100)	760±24(100)	720±22(100)	3.91±0.171(100)
3. Malpura	Lava	Vermin waste	540±23(100)	540±16(100)	540±23(100)	760±19(100)	730±19(100)	740±19(100)	3.94±0.134(100)
4. Devali	Jalseena	Pond waste	480±22(100)	420±22(100)	540±18(100)	410±14(100)	430±18(100)	450±20(100)	3.92±0.157(100)
5. Toda rai singh	Chooli	Green fodder	490±20(100)	490±25(100)	660±25(100)	730±13(100)	710±21(100)	760±15(100)	3.84±0.134(100)

with other groups. In case of Sop village group for aforesaid months increased weight of broilers was 530±25g, 530±24g, 620±12g, 750±25g, 760±24g and 720±22g respectively. The average increased weight of broiler was 3.76±0.189 kg under Oum village group and 3.91±0.171 kg was under Sop village group. Sop village group was slowly gaining weight compare than Oum village group because they were providing fish waste which contained more amounts of vitamins. All over results of Oum group was poor performance and Lava village group was excellent.

The findings of Lava village group in I, II, III, IV, V and VI month was found to be 540±23g, 540±16g, 540±23g, 760±19g, 730±19g and 740±19g fed vermin waste to the poultry chicks and other essential contents of diet were similar with other groups. In case of meat it was excellent growing compare than every group because Lava village group was providing vermin waste which contained more amounts of proteins, vitamins and minerals.

It is clear from above table that the findings of Jalseena village group in I, II, III, IV, V and VI month was found to be 480±20, 420±22, 540±18, 410±14, 430±18 and 450±20 fed pond waste to the poultry chicks and other essential contents of diet were similar with other groups. In case of Jalseena village group meat was slowly growing compare than Lava village group because Lava village group was providing vermin waste which contained more amounts of vitamins and minerals. All over results of Jalseena group was satisfactory performance and Chooli village group was slowly growing.

Our findings on weight gain are fully corroborated with Lott and May (2001) who reported that the Body weight was determined at 21 d. Weight gain and feed:gain were determined at 28, 35, 42, and 49 d. The data were analyzed statistically, and regression equations were obtained for weight gain and feed:gain for each sex. Equations were based on body weight and temperature, and the body weight equations were plotted as grams gained per bird per day. Feed:gain increased with increasing weight.

Our findings of weight gain are similar with Pauwels et al (2015) who reported the ability of four broiler chicken breeds to perform on a commercial versus a scavenger diet was tested. The four broiler breeds differed genetically in growth potential. A significant ($P < 0.01$) negative effect of the scavenger diet on the bodyweight of the fast growing breeds was found and this effect decreased with decreasing growth rate in the other breeds.

It was observed from Table 3 that the number of egg of Oum village group reported 06±01, 07±02, 09±01, 10±02, 09±01 and 09±02, respectively in six months with an average of 8.33±02. This was poorest performance compare than others because crop waste food is not healthy in comparison with fish waste, vermin waste and pond waste.

Sop village group reported the number of egg was 06±01, 09±01, 10±02, 10±01, 12±01 and 11±01 respectively in six months with an average of 9.66±02. The performance of Sop village group was average in comparison with other village group because of difference in feeding, locally available sources of feed and water quality.

Lava village group reported that the number of egg was 08±02, 10±02, 11±01, 11±02, 10±02 and 10±02 respectively in six months with an average of 10±02. The performance of Lava village group was excellent in comparison with every group.

Table 3: Analysis of Egg Production

S. No.	Tahsil	Group	Waste	Number of egg monthly						Average
				I	II	III	IV	V	VI	
1.	Tonk	Oum	Crop waste	6±01(100)	7±02(100)	9±01(100)	10±02(100)	9±01(100)	9±02(100)	8.33±02(100)
2.	Uniara	Sop	Fish waste	6±01(100)	9±01(100)	10±02(100)	10±01(100)	12±01(100)	11±01(100)	9.66±02(100)
3.	Malpura	Lava	Vermin waste	8±02(100)	10±02(100)	11±01(100)	11±02(100)	10±02(100)	10±02(100)	10±02(100)
4.	Devali	Jalseena	Pond waste	7±01(100)	9±01(100)	10±02(100)	10±01(100)	12±01(100)	11±02(100)	9.83±02(100)
5.	Toda rai singh	Chooli	Green fodder	6±02(100)	9±02(100)	8±01(100)	9±02(100)	11±02(100)	10±01(100)	8.83±02(100)

Jalseena village group reported that the number of egg was 07±01, 09±01, 10±02, 10±01, 12±01 and 11±02 respectively in six months with an average of 9.83±02. It was average performance of this study due to improved feeding, water quality and managmental factors.

Chooli village group reported that the number of egg was 06±02, 9±02, 08±01, 09±02, 11±02 and 10±01 respectively in six months with an average of 9.83±02. Our findings on egg production are fully corroborated with (Bolan et al., 2004) Metals such as arsenic, cobalt, copper, iron, manganese, selenium and zinc are added to feeds as a means to prevent disease, improve weight gain and feed conversion, and increase egg production.

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