

Impact of Frontline Demonstrations on Growth Performance of Dual Purpose Poultry Chicks (*Kuroilers*) Under Back Yard Poultry Farming System

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Abstract

The present study was carried out by Krishi Vigyan Kendra, Jakhdhar, Rudraprayag to know the performance gaps between improved package and practices under Front Line Demonstrations (FLDs) and farmer's practices (FPs) of dual purpose poultry birds under backyard poultry farming conditions. Front line demonstrations (FLDs) were conducted on 60 farmer's flocks to demonstrate the impact of improved package and practices on growth performance and economic benefits in hilly condition of Uttarakhand in three consecutive years i.e. 2011-12, 2012-13 and 2013-14. The technologies demonstrated in FLDs recorded additional body weight of birds over farmer's practices. Under FLDs the body weight up to 7th week was observed as increased by 217 g which is 24.22 per cent over FPs. The extension gap, technology gap and technology index were calculated as 216.67 grams/bird, 138 grams/bird and 11.04 per cent, respectively. Adoption of improved package of practices in rearing birds as per improved practices recorded higher B: C ratio (1.58) as compared to FPs (1.49). Growth enhancement and higher net returns observed under FLDs of improved technologies in dual purpose poultry birds. Thus, the productivity i.e. Body weight/chick could be increased with the adoption of recommended improved package of practices.

Keywords: Technology index, extension gap, technology gap, client satisfaction index, front line demonstration, back yard poultry farming

Introduction

Backyard poultry production system can be defined as it is a low input or no input business and is characterized by indigenous night shelter system scavenging system, with little supplementary feeding, natural hatching of chicks, poor productivity of birds, local marketing and no health care practice^[6]. It has been estimated that Indian demand for poultry products will be enhanced at 4.8 percent where as the supply of poultry products will grow at 5.2 percent per year over the decade which is faster than any other type of livestock product^[2,3]. Keeping the advantages of backyard poultry viz., gives employment to the rural small scale and marginal farmers, provides additional income to the rural households, enhancement of poultry production in backyards, low input in

establishment of poultry units, lessening protein malnutrition in susceptible groups like pregnant women, feeding mothers and children and old age rural people and opportunity of employment for rural youth and empowerment of women.

Back Yard Poultry Farming should be incorporated in the existing agriculture and livestock based integrated farming system viz. Agriculture + Livestock+ Backyard Poultry^[4,9]. In Uttarakhand, farmers generally rear the poultry birds for meat purpose. Therefore, keeping this in view, the present study was undertaken on growth performance of dual purpose poultry birds. It is necessary to raise awareness about backyard poultry farming among rural farming community to boost up poultry production and to remove the extension gaps.

Materials and Methods

Front-line demonstrations with improved package of practices on back yard poultry farming were conducted with 60 farmers (20 farmers in each year) in three consecutive years viz. 2011-12,2012-13 and 2013-14 in 8 different villages ie. Khankara, Naugaon, Ginwala, Dewar, Bansu, Nakot, Rodu and Gairh of Rudraprayag district (Uttarakhand). Twenty five day old chicks (DOC) dual purposes (kuroiler) were provided to each farm families. Other farmers using their own practice (Farmer’s practice) were contacted for collecting data. Prior to conducting FLDs, group meeting and specific skill training was given to the selected farmers regarding package of practices of backyard poultry production.

Preferential ranking technique was utilized to identify the constraints faced by the respondent farmers in poultry production. Farmers were also asked to rank the constraints they perceive as limiting factor for poultry production in order of preference. Based on top rank of farmers problems identified, front line demonstrations (FLD) were planned and conducted. The improved technologies selected for FLDs are given in

Table 1. The dual purpose (kuroiler) chicks were purchased from government hatcheries and provided to farmers reared in different micro-climatic situations. The average body weight at age of the 7th week of each FLD and farmer practice has been taken for interpretation of the results. The extension gap, technology gap and technology index were calculated using the following formula^[7].

Extension gap (g/chick) = Demonstration yield (g/chick) – Yield of local check (g/chick).

Technology gap (g/chick) = Potential yield (g/chick) – Demonstration yield (g/chick).

Technology index (%) = {(Potential yield – Demonstration yield) / Potential yield} x 100

The satisfaction level of participating farmers for the performance of improve demonstrated technology was also assessed. Total 120 farmers, 40 farmers in each year were selected to measure satisfaction level for the performance of improved technology. The selected respondents were interviewed personally with the help of a pre-tested and well-structured interview schedule. Client Satisfaction Index was calculated as below.

Table1 Details of package of practices followed in the frontline demonstrations (FLDs) vs farmers practice (FP)

S. No.	Inputs	FLDs	FP
1.	Dual purpose day old chicks	CARI Devendra/ Different crosses	Local/ Non-descript
2.	Technical knowhow	Imparted training	Untrained
3.	Medicines	Need based treatment	-
4.	Vaccines	With merek	-
5.	Housing facility	Net houses + concrete+ well ventilation	Concrete + not ventilated
6.	Preparation of Ration	Skill training for preparation of balance ration	No balance ration

Client satisfaction index = (Individual score obtained/ Maximum score possible) x 100.

The data on yield were recorded and analysed to interpret the results. The economic-parameters (gross return, net return and B: C ratio) were worked out on the basis

of prevailing market prices of inputs and outputs.

Results and Discussion

Constraints in poultry production

Perusal of the data from Table-2 indicated that Mortality due to disease

outbreak (95%) was given the top most rank followed by low production performance of native breeds (88.00%), early chick mortality (80.00%), non-availability of day old quality chicks (76.33%), lack of financial support (66.67%), non-availability of quality ration

(50.00%), week market linkage (44.17%), attack of predators (35.83%) and lack of housing facility (31.67%) were the major constraints to poultry production. Similar constraints have been reported earlier^[8].

Table 2 Ranks for different constraints given by farmers in back yard poultry farming (n=120)

Constraints	Percentage	Rank
Mortality due to disease outbreak	95.00	I
Low production performance of native breeds	88.00	II
Early chick mortality	80.00	III
Non-availability of day old quality chicks	76.33	IV
Lack of financial support	66.67	V
Non availability of quality ration	50.00	VI
Week market linkage	44.17	VII
Attack of predators	35.83	VIII
Lack of housing facility	31.67	IX

Growth performance

The data on live weight (Table-3) indicated that the FLDs given a good impact on the farming community of Rudraprayag district as they were motivated by the new technologies adopted in the demonstrations. Average body weight under front line

demonstrations was observed as 1112 gram/chick which was higher by 24.22% over the prevailing farmers practice (895 gram/chick). The results are in close conformity with the research results of many others^[5,8].

Table 3 Growth performance of chicks under FLDs Vs FPs

Year	No. of demo.	DOC	Live weight (g/Chicks)		% yield increase over FP	Technology gap (g/Chicks)	Extension gap (g/Chicks)	Technology index (%)
			FLD	FP				
2011-12	20	25	1112	894	24.38	138	218	11.04
2012-13	20	25	1114	882	26.30	136	232	10.88
2013-14	20	25	1110	910	21.98	140	200	11.20
Mean	20	25	1112	895	24.22	138.00	216.67	11.04

Extension and technology gap

On an average the extension and technology gaps are 216.67 gram/chick and 138.00 gram/chick respectively (Table-3) during the period of demonstration emphasized the need to educate the farmers through various means for the adoption of improved backyard poultry production technologies to reverse this trend of wide extension gap. More and more use of latest production technologies with high yielding varieties will subsequently change this alarming trend of galloping extension gap. The new technologies will eventually lead to the farmers to replace old practices with the new one. The technology gap observed may be attributed to the dissimilarity in the awareness among the farmers and micro climatic situations. Hence, breed wise location specific recommendation appears to be necessary to minimize the technology gap for yield level in different situations^[1,5,6].

Technology index

The technology index indicates the feasibility of the evolved technology at the

farmer’s level. The lower the value of technology index more is the feasibility of the technology. The data (Table-3) showed that technology index values were 11.04, 10.88 and 11.20 % in the year 2011-12, 2012-13 and 2013-14 respectively, whereas the average value of technology index was recorded 11.04 %, it may be due to weather conditions of the area.

Economic analysis

The higher cost of poultry production Rs 70/- per chick involved in FLDs as compared to Rs. 60/- per chick under Farmers practice (Table-4). The chicks under FLDs fetched higher mean gross returns (Rs. 111.20) and net returns (Rs. 41.20) with higher benefit: cost ratio (1.58) as compared to (gross returns Rs. 89.50), (net returns Rs. 29.50) and (benefit: cost ratio 1.49) with farmers practice. Earlier investigators also reported at par with results of the present study which also resulted in higher net returns through FLDs on improved technologies^[9].

Table 4 Economics, additional cost and returns in poultry growth under frontline demonstrations (FLDs) vs framers practice (FP).

Group	Type of chicks	Date of start of trial	Avg. no. of chicks	Exp./ chicks (Rs.)	Total wt gain (Kg)	Total exp. (Rs.)	Income from sale of live chicks(Rs.)	Gross Income per chicks(Rs.)	Net income per chick (Rs.)	Increase in income over FPs (%)	Cost: Benefit ratio
FLDs	Kuroiler	2011-14	500	70.00	556.00	35000	55600	111.20	41.20	39.66	1.58:1
FPs	Non description		350	60.00	313.25	21000	31325	89.50	29.50		1.49:1

Additional cost of poultry production and returns

Further, data (Table-4) revealed that the average additional cost of poultry production (Rs. 10/-) under front line demonstration has yielded additional net returns of Rs. 11.70/chick. The results suggest that higher profitability and economic viability of poultry birds under local agro-ecological situation.

Farmer’s satisfaction

Client satisfaction index (CSI) presented in Table 5 observed that majority of

the respondent farmers expressed high (54.17%) and medium (30.00%) level of satisfaction regarding the performance of FLDs, whereas, very few (16.67 %) of respondents expressed lower level of satisfaction. Majority of responding farmers under higher and medium level of satisfaction with respect to performance of demonstrated technology indicate stronger conviction, physical and mental involvement in the frontline demonstrations which in turn would lead to higher adoption.

Table 5 Extent of farmer's satisfaction over performance of FLDs

Satisfaction level	Number	Percent
High	65	54.17
Medium	35	30.00
Low	20	16.67

Conclusion

Thus, it may be concluded that the yield and returns in wheat crop increased substantially with the improved production technologies. However, the yield level under FLDs was better than the farmer practice and performance of these varieties could be further improved by adopting recommended production technologies. So, there is need to disseminate the improved technologies among the farmers with effective extension methods like training and field demonstrations. The farmers should be encouraged to adopt the

recommended agro-techniques for getting maximum returns in specific locations.

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