The Pharma Innovation

Pramod Kumar Maddheshiya
Research Scholar, Department of
Animal Husbandry, College of
Agriculture, Sardar Vallabhbhai Patel
University of Agriculture & Technology,
Meerut, Uttar Pradesh, India

Nazim Ali
Department of Animal Husbandry,
College of Agriculture, Sardar
Vallabhbhai Patel University of
Agriculture & Technology, Meerut,
Uttar Pradesh, India

Ahmad Fahim
Department of Livestock Production
Management, College of Veterinary and
Animal Science, Sardar Vallabhbhai
Patel University of Agriculture &
Technology, Meerut, Uttar Pradesh,
India

Rajbir Singh
Department of Animal Husbandry,
College of Agriculture, Sardar
Vallabhbhai Patel University of
Agriculture & Technology, Meerut,
Uttar Pradesh, India

DS Sahu
Department of Animal Husbandry,
College of Agriculture, Sardar
Vallabhbhai Patel University of
Agriculture & Technology, Meerut,
Uttar Pradesh, India

Debashis Roy
Department of Animal Nutrition,
College of Veterinary and Animal
Science, Sardar Vallabhbhai Patel
University of Agriculture & Technology,
Meerut, Uttar Pradesh, India

Mohd. Ameer Khan
Department of Veterinary Extension
Education, College of Veterinary and
Animal Science, Sardar Vallabhbhai
Patel University of Agriculture &
Technology, Meerut, Uttar Pradesh,
India

Deepak Singh
Department of Animal Husbandry,
College of Agriculture Sardar,
Vallabhbhai Patel University of
Agriculture & Technology, Meerut,
Uttar Pradesh, India

KK Dubey
Department of Animal Husbandry,
College of Agriculture Sardar,
Vallabhbhai Patel University of
Agriculture & Technology, Meerut,
Uttar Pradesh, India

Corresponding Author
Pramod Kumar Maddheshiya
Research Scholar, Department of
Animal Husbandry, College of
Agriculture, Sardar Vallabhbhai Patel
University of Agriculture & Technology,
Meerut, Uttar Pradesh, India

Comparative study of broiler production practices in Bareilly and Shahjahanpur districts of Western Uttar Pradesh

Pramod Kumar Maddheshiya, Nazim Ali, Ahmad Fahim, Rajbir Singh, DS Sahu, Debashis Roy, Mohd. Ameer Khan, Deepak Singh and KK Dubey

Abstract
The present study was conducted in two district of Western Uttar Pradesh, Bareilly and Shahjahanpur. A total of 86 organized poultry farmers, 44 in Bareilly and 42 in Shahjahanpur having operational commercial farms were selected. Data on a well-structured questionnaire were collected personally from the respondents through face to face interview technique. The study revealed that commercial poultry farmers in Bareilly and Shahjhanpur districts were having good knowledge of broiler production. The knowledge of poultry farmers was highest regarding selection of strain (mean percent score 83.72), followed by managemental interventions at the time of chick delivery. Significant number of poultry farmers were having knowledge regarding optimum temperature of brooder house (mean percent score 83.72) and followed stress reduction practices at the arrival of chicks (mean percent score 82.56). They followed balanced feeding schedule for better growth and productivity of chicks. This may be due to active involvement of extension and advisory services provided to the poultry farmers of both the regions.

Keywords: Broiler farming, knowledge level, poultry production, Western Uttar Pradesh

Introduction
Livestock sector is one of the fastest developing segments in Indian agribusiness sector out of which poultry production in India has shown overwhelming development in-spite of a few difficulties experienced throughout the years. Poultry is one of the quickest developing fragments of the farming systems in India with around 8% developmental rate per annum. The poultry segment in India has experienced a change in perspective in structure and activity which has been its change from a commercial activity into a significant agro-business based industry over a time of four decades. Currently the total poultry population in our country is 851.81 million numbers. However, it is still far behind in fulfilling the suggested level of consumption of 180 eggs and 10.8 kg poultry meat per person per annum as recommended by Indian Council Medical Research. The poultry husbandry has involved a vital position both in giving work just as in contributing a significant extent to the national GDP.
Uttar Pradesh, in spite of its large human population, contributed just around 2.56 percent of the country's poultry population. Out of the total poultry population of 18.66 million, the farm poultry constitutes 10.32 million birds (19th Livestock Census, 2012). During the period 2007-2012 poultry population in the state has grown from 17.8 millions to 18.7 millions and egg production from 98.15 crores to 181.223 crores. (SDAH, Uttar Pradesh, 2013). Similarly, the requirement of chicken meat was met through purchasing an approximately 10 crores day old broiler chicks from other states, annually. It is therefore, much needed to priorities poultry development in the animal husbandry sector to meet this huge gap in demand and supply of poultry products. Keeping this in view, the present study was planned to study the broiler production practices in Western Uttar Pradesh taking into consideration two progressive districts i.e. Bareilly and Shahjajahnpur.

Materials and Methods
The present study was conducted in two districts of Western Uttar Pradesh, Bareilly and Shahjahanpur. A total of 86 organized poultry farmers, 44 in Bareilly and 42 in Shahjahanpur having operational commercial farms were selected in both district.

Data on a well-structured questionnaire were collected personally from the respondents through face to face interview technique. To arrive at the specific inferences, various statistical measures viz., frequency, percentage, mean percent score, and rank etc., were used. To measure the knowledge level of respondents, a knowledge test developed by Narender Paul (2003) [4] was adopted with modification like inclusion of various practices viz. procurement of chicks, preparation of brooder house, feeding and watering along with statements related to common poultry farming practices were used and further the questions were discussed with extension specialist of poultry department at Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut. The questions along with sub questions about improved poultry farming practices in Bareilly district and same questions in Shahjahanpur district were included to measure the knowledge level of the farmers and equal weightage was given to each question, assuming that all the items included were equally difficult to understand. One mark was given for right answer and zero for the wrong answer.

The following formula was used to work out the knowledge index.

$$\text{Knowledge index} = \frac{X_1 + X_2 + X_3 \text{------------} X_n}{N} \times 100$$

Where

X_1, X_2, X_3 ---------------- X_n are correct answer for first second and upto i^{th} question.

N is the maximum possible score of the schedule.

The mean and standard deviation of the scores of all the respondents were computed for classifying the knowledge level in different categories based on the mean knowledge score and standard deviation. The farmers were categorized into three levels of knowledge i.e. low, medium and high based on mean and standard deviation. The categorization was done according to following considerations. Low knowledge level = Score below (Mean knowledge score-Standard Deviation) Medium knowledge level = Scores between (Mean knowledge score-Standard deviation to (Mean knowledge score + Standard Deviation)) High knowledge level = Scores above (Mean knowledge score + Standard Deviation).

Results and Discussion
The results showed that the most of the poultry farmers were middle aged, having age in between 36-50 years. The predominant community in broiler production was Hindu community which was nearly two third of total population who practiced poultry production. The majorities of poultry farmers in both the districts were educated and had passed their education up to high school or intermediate. 13.95% of the poultry farmers were having degree of higher education and passed up to graduate level and above. The family type was mostly of joint type followed by nuclear type family in districts. The majority of poultry farmers were having medium size family with 4 to 9 members, similar in both the districts. The poultry farming in terms of broiler production was the main occupation of poultry farmers, depending on the sale of birds in open market as retailer or wholesaler. The majority of poultry farmers in broiler production were associated with some organization as active members for

knowledge sharing point of view. With respect to experience in poultry farming, the farmers of all categories were present having low (less than 2 years), medium (2-5 years) and high experience (more than 5 years).

Table 1: General information of respondents in Bareilly and Shahjahanpur districts

Age	Area of study				Pooled	
	Bareilly		Shahjahanpur			
	f	%	f	%	f	%
Age distribution						
Young age (<36 years)	12	27.27	7	16.67	19	22.09
Middle age (36-50 years)	21	47.73	26	61.90	47	54.65
Old age (>50 years)	11	25.00	9	21.43	20	23.26
Religion/Community						
Hindu	29	65.90	30	71.42	59	68.60
Muslim	15	34.09	12	28.57	27	31.40
Level of education						
Illiterate	1	2.17	0	0.00	1	1.16
Primary	5	10.87	2	4.76	7	8.14
Middle	4	8.70	8	19.05	12	13.95
High School	17	34.78	18	42.86	34	39.53
Intermediate	14	28.26	7	16.67	20	23.26
Graduate and above	5	10.87	7	16.67	12	13.95
Type of family						
Joint	24	52.17	22	52.38	46	53.49
Nuclear	20	43.48	20	47.62	40	46.51
Family size						
Small (<4)	10	22.73	11	26.19	21	24.42
Medium (4-9)	21	47.73	19	45.24	40	46.51
Large (>9)	13	29.55	12	28.57	25	29.07
Occupation						
Main	28	63.64	26	61.90	54	62.79
Subsidiary	16	36.36	16	38.10	32	37.21
Social participation						
No participation	18	40.91	8	19.05	26	30.23
Member of organization	26	59.09	28	66.67	54	62.79
Experience in poultry farming						
Low (<2 years)	19	43.18	12	28.57	31	36.05
Medium (2-5 years)	11	25.00	15	35.71	26	30.23
High (>5 years)	14	31.82	15	35.71	29	33.72

The knowledge level of poultry farmers regarding broiler production practices have been presented in table 1. The study revealed that the knowledge of poultry farmers was highest regarding selection of strain (mean percent score 83.72), followed by managemental interventions at the time of chick delivery (mean percent score 72.09). The knowledge level of optimum chick weight was ranked third (mean percent score 69.77). The farmers had limited knowledge of initial preparation of brooder house with mean percent score of 47.68. Both the districts were having similarity in patterns of various packages of practices as presented in table 2. Similar results were reported by Babu, (2013) [1] in study conducted on knowledge and adoption level of commercial poultry farmers about scientific poultry farming in mid-western plain zone of Uttar Pradesh.

The knowledge level of poultry farmers regarding brooder house preparation practices have been presented in table 2. The study revealed that significant number of poultry farmers were having knowledge regarding optimum temperature of brooder house (mean percent score 83.72). They followed stress reduction practices at the arrival of chicks (mean percent score 82.56). They were familiar with the use of litter material and its thickness which was ranked third in the survey carried out in present study (mean percent score

82.55). The farmers were not having sufficient knowledge of placement and arrangement of feeders and waterers in the brooder house (mean percent score 72.09). Few of the farmers used chick guard during initial stages of brooding (mean percent score 69.77). The knowledge levels of preparation of brooder house at the arrival of chicks were almost found almost similar in both the districts. Babu (2013) [1] and Ithika *et al*., (2013) [2] reported similar findings in the study conducted on poultry farmers of Uttar Pradesh and Haryana districts, respectively.

The knowledge level of poultry farmers regarding feeding and watering practices in Bareilly and Shahjhanpur districts have been presented in table 2. The feeding and watering practices revealed that a good number of farmers were having knowledge of balanced feeding (mean percent score 79.06). They were also having knowledge of recommended feeding or change of feed to poultry birds at different age groups (mean percent score 77.91). The farmers were using starter and finisher diets for broiler production at most of the poultry farms (mean percent score 76.75). Other parameters like, way to fill the feeders and waterers and mixing of antibiotic in poultry feed was less known in both the districts (mean percent score 68.61 and 63.95, respectively).

Table 2: Knowledge Level of respondents in Bareilly and Sahahjahanpur districts

Parameters	Area of study				Pooled		Rank
	Bareilly		Shahjahanpur				
	f	%	F	%	F	%	
Procurement of chicks							
Purchase of chicks	21	47.73	20	47.62	41	47.68	IV
Initial preparation of brooder house	25	56.82	16	38.10	41	47.68	IV
Knowledge of strain	35	79.55	37	88.10	72	83.72	I
Knowledge of optimum chick weight	31	70.45	29	69.05	60	69.77	III
Unboxing of chicks at the earliest	32	72.72	30	71.43	62	72.09	II
Preparation of brooder house							
Optimum temperature of brooder house	36	81.82	36	85.62	72	83.72	I
Thickness of litter material	37	86.36	34	80.95	71	82.55	III
Use of newspaper on litter	32	72.73	26	61.91	58	67.44	VI
Stress reduction of chicks at arrival	34	77.27	37	88.09	71	82.56	II
Use of chick guard	31	70.45	29	69.05	60	69.77	V
Placement/ Arrangement of feeders and waterers in brooder	32	72.72	30	71.43	62	72.09	IV
Height of feeders and waterers at time of brooding	30	72.72	27	66.67	57	66.44	VII
Feeding and watering							
Knowledge of balanced feeding	34	77.27	34	80.95	68	79.06	I
Starter and finisher diet	32	72.73	34	80.95	66	76.75	III
Recommended feeding to poultry birds at different age groups	31	70.45	36	85.71	67	77.91	II
Recommended number of chick feeders and waterers	32	72.73	28	66.67	60	69.77	IV
Proper way to fill the feeders/ waterers	29	65.91	30	71.43	59	68.61	V
Mixing of antibiotic in poultry feed	23	52.27	22	52.38	55	63.95	VI

Conclusion
The study revealed that commercial poultry farmers in Bareilly and Shahjhanpur districts were having good knowledge of broiler production. They were aware of the better strains of chicks available in the area. They had knowledge to prepare the brooder house and maintain optimum temperature for care and management of chicks. They also followed balanced feeding schedule for better growth and productivity of chicks.

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