

*Original Research***Effectiveness of Specialized Poultry Farming Trainings****Madhu Shelly\*, H. K. Verma, Jaswinder Singh, Parminder Singh and J. S. Bedi<sup>1</sup>**Department of Veterinary and Animal Husbandry Extension Education, Guru Angad Dev  
Veterinary and Animal Sciences University, Ludhiana, Punjab, INDIA<sup>1</sup>School of Public Health and Zoonoses**\*Corresponding author:** [gsmadhu786@gmail.com](mailto:gsmadhu786@gmail.com)

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**Abstract**

*In order to evaluate effectiveness of scientific trainings on poultry farming in terms of knowledge gain, 70 farmers from on campus trainings were selected. Majority trainees (60 %) were less than 30 years age and 58.57 % trainees had annual income 'between 1-6 lakh'. Significant increase in the proportion of correct responses given for different knowledge statements was observed. There was significant ( $P < .01$ ) increase in Knowledge Index from  $10.80 \pm 0.88$  before training to  $47.94 \pm 0.74$  after training with a knowledge gain of  $37.14 \pm 0.89$ . Further it was clearly seen that training interaction with age, education, annual income, income source, land holding, mass media exposure, extension agency contacts and social participation had significant impact on the scores obtained before and after training.*

**Key words:** Effectiveness, Knowledge Index, Specialized Poultry Trainings**How to cite:** Shelly, M., Verma, H., Singh, J., Chawla, P., & Bedi, J. (2019). Effectiveness of Specialized Poultry Farming Trainings. International Journal of Livestock Research, 9(10), 163-169. doi: 10.5455/ijlr.20190105024135**Introduction**

To understand the true significance of the livestock sector, it needs to be viewed as a sector linked with the livelihood of millions of rural households (over 70%), who depend on livestock farming for supplementary income (Kurup, 2002). Livestock in India is kept mainly by the small landholders and the landless that constitute bulk of the rural population (Birthal *et al.*, 2002). The progress in this sector will result in a more balanced development of rural economy (Sharma *et al.*, 2003). Among livestock, poultry farming has assumed great significance due to high nutritional value of poultry products and their continuously increasing demand. Egg production increased substantially from 82929 million in 2015-16 to 88139 million in 2016-17 with a growth rate of 6.3 %. The per capita availability reached at 60 eggs per annum in the year 2016-17 from 66 eggs per year from previous year 2015-16. Meat production from poultry increased from 3263.81 thousand tonnes in 2015-16 to 3463.65 thousand tonnes in 2016-17 (BAHS, 2017). Realizing the

importance of livestock to national economy, GADVASU was established at Ludhiana, Punjab and corresponding universities in other states of the country specially dedicated to animal husbandry and veterinary sciences were established. Training and capacity building have had a major role to play in livestock sector. In spite of rapid advances in the animal husbandry technologies and their benefit to livestock sector, productivity of this sector is still very low in India. Reasons like low awareness of improved animal husbandry technologies/ practices and poor knowledge level of farmers regarding feed and farm management are often found responsible for low production than the actual potential. Training can counter such limitations by imparting knowhow directly. Therefore, this study was carried out to find the effectiveness of scientific trainings on poultry farming conducted by GADVASU, Ludhiana in terms of knowledge gain of the trainees.

### Materials and Methods

About 70 trainees from various poultry farming trainings conducted by Guru Angad Dev Veterinary and Animal Sciences University from August 2016 to August 2017. Data was collected after six months of attending the training programme on pig farming. Questionnaire on knowledge test was prepared and pretested. Knowledge test included 25 multiple choice questions. All the 25 questions had total four options with single correct option. These questions about knowledge test were collected from the various lectures conducted by subject matter specialists and scheduled regularly during the training programmes. Questions were included on a wide variety of areas like feeding and nutrition, breeds and breeding aspect, shed construction, health care and diseases, vaccination etc.

For knowledge evaluation through test, each correct answer was scored as one and each wrong answer was scored zero. The sum of score was taken as knowledge score. For each training programme, maximum possible score was 25 and minimum was 0. Knowledge index at pre and post evaluation stage was calculated by dividing the total score obtained by the maximum obtainable score and multiplying the result with 100. Data were analyzed using SAS 9.3.

$$KI = \frac{\text{Obtained score}}{\text{Maximum possible score}} \times 100$$

$$\text{Knowledge gain} = KI (\text{pretest}) - KI (\text{posttest})$$

### Results and Discussion

#### Socio-Personal and Communication Profile of Trainees

Out of 70 trainees from poultry farming (Table 1), 60 % were less than 30 years age and only 8.57 % belonged to higher age group. Most of the respondents (42.86 %) had studied till 'graduation and above' and majority (58.57 %) trainees had annual income 'between 1-6 lakh'. Most trainees (34.29 %) had only land as the source of income and 30.0 % belonged to business/service sector. At least 55.71 % trainees had

land holding between 1-5 acres. Eziebe *et al.* (2014) in a study on poultry farmers also found that 84 % had income between 2-6 lakh. Kabir *et al.* (2015) in a study on poultry farmers also reported that 40 % had agriculture as primary occupation and 36% belonged to business/service sector. Majority respondents (**Table 9 Please correct**) 45.71 % had low mass media exposure followed by 37.14 % with medium level of exposure and only 17.14 % with high exposure. Bhuyian *et al.* (2013) in a study also reported that majority (54 %) poultry farmers had low exposure to communication media, 46 % had medium exposure and none of the farmers had high exposure. As in case of pig and goat farming, most trainees (60.0 %) had medium extension agency contact and 67.14 % had low level of social participation.

**Table 1:** Socio-personal and communication profile of trainees

Attributes	Parameter	Frequency (Percentage)
Age (years)	≤ 30 years	42 (60.00)
	31-45 years	22 (31.43)
	≥ 46 years	6 (8.57)
Education	High school	12 (17.14)
	10+2	28 (40.00)
	Graduate and above	30 (42.86)
Income/Year	< 1 lakh	25 (35.71)
	1-6 lakh	41 (58.57)
	≥ 6 lakh	4 (5.71)
Income Source	Only land	24 (34.29)
	Only animals	0
	Land and animals	7 (10.00)
	Land and others (service/business)	12 (17.14)
	Others	21 (30.00)
	All three (land, animals, others)	6 (8.57)
Land (acres)	Landless	6 (8.57)
	01-May	39 (55.71)
	05-Oct	17 (24.29)
	>10	8 (11.43)
Mass Media Exposure	Low	32 (45.71)
	Medium	26 (37.14)
	High	12 (17.14)
Extension Agency Contact	Low	28 (40.00)
	Medium	42 (60.00)
	High	-
Social Participation	Low	47 (67.14)
	Medium	21 (30.00)

**Impact of Poultry Farming Training on Knowledge Level of Trainees**

Table 2, lists the pre-training and post-training scores of respondents after 2-week training programme. None of the trainees was aware of demerits of using raw soyabean for poultry, but after attending regular classes, 41.37 % became sufficiently aware. Similarly knowledge regarding vaccination ( 0 before vs 38.57 % after), debeaking age (7.14 % before vs 51.43 % after), use of antioxidants in ration (0 before vs 41.43

% after), light requirement of birds (8.57 % before vs 48.57 % after), humidity percent for egg storage (0 vs 47.14) and nutrients affecting egg coat (12.86 vs 44.29) showed significant ( $P < .01$ ) improvement. Therefore, training goes a long way in removing misconceptions and giving a right direction to the trainees. Jat and Yadav (2012) also recommended that knowledge of poultry farmers should be increased through exposure and trainings.

**Table 2:** Impact of poultry farming training on knowledge level of trainees

Q. No.	Statement	Correct Responses (%)			
		Pre- training	Post-training	Chi square value	P value
1	Eggs laid by consuming 2.5 Kg feed	4 (5.71)	34 (48.57)	32.508	<.0001
2	What percent of egg is edible	16 (22.86)	33 (47.14)	9.074	0.003
3	Fallopian tubes in hen	2 (2.86)	37 (52.86)	43.539	<.0001
4	Brooding	37 (52.86)	51 (72.86)	5.996	0.014
5	Systems of rearing poultry	46 (65.71)	57 (81.43)	4.445	0.035
6	Benefits of cage system	0	35 (50.00)	46.667	<.0001
7	Sunflower seed addition in ration	1 (1.43)	25 (35.71)	27.206	<.0001
8	Optimum temperature for broilers	18 (25.71)	32 (45.71)	6.098	0.014
9	Space for chicks under brooder	5 (7.14)	35 (50.00)	31.5	<.0001
10	Use of corn gluten meal	5 (7.14)	35 (50.00)	31.5	<.0001
11	Raw soyabean demerits	0	29 (41.43)	36.577	<.0001
12	Perosis in cage birds	17 (24.29)	38 (54.29)	13.206	0.0003
13	Coccidiostats in bird ration	0	35 (50.00)	46.667	<.0001
14	Vaccination	0	27 (38.57)	33.451	<.0001
15	Debeaking age	5 (7.14)	36 (51.43)	33.146	<.0001
16	Disinfectants for poultry farm	4 (5.71)	31 (44.29)	27.771	<.0001
17	Antibiotics in ration	0	28 (40.00)	35	<.0001
18	Antioxidants in ration	0	29 (41.43)	36.577	<.0001
19	Antioxidants used commonly	6 (8.57)	35 (50.00)	29.007	<.0001
20	Impact of adding coccidiostat in ration	4 (5.71)	30 (42.86)	26.259	<.0001
21	Vitamin synthesis by poultry	4 (5.71)	28 (40.00)	23.333	<.0001
22	Light requirement of birds	6 (8.57)	34 (48.57)	27.44	<.0001
23	Nutrients affecting egg coat	9 (12.86)	31 (44.29)	16.94	<.0001
24	Optimum hatching temperature for eggs	0	21 (30.00)	24.706	<.0001
25	Humidity percent for egg storage	0	33 (47.14)	43.178	<.0001

**Evaluation of Pre-training KI, Post-training KI, Knowledge Gain in Poultry Farming w.r.t. Independent Variables**

Table 3 depicts that overall pre-KI of  $10.80 \pm 0.88$  rose to post KI of  $47.94 \pm 0.74$  with a knowledge gain of  $37.14 \pm 0.89$  which was significant ( $P < .01$ ). As is clear from Table, pre-KI, post KI and knowledge gain were lowest ( $8.00 \pm 2.92$ ,  $40.0 \pm 0$  and  $32.0 \pm 2.92$  respectively) in ‘ $\geq 46$  age’ group. However, pre-KI was highest ( $13.47 \pm 1.14$ ) in ‘graduate and above’ education category and knowledge gain was lowest ( $34.67 \pm 1.28$ ) in this category. Also, pre-KI and post KI were both highest ( $20.0 \pm 2.31$  and  $56.0 \pm 2.31$  respectively) in ‘ $\geq 6$  lakh’ income category but knowledge gain was highest ( $40.8 \pm 1.06$ ) in ‘ $< 1$  lakh’

income category. As far as income source was concerned, pre-KI was highest ( $14.86 \pm 3.46$ ) in 'land and animals' category, post KI and knowledge gain were highest ( $51.24 \pm 1.72$  and  $39.43 \pm 1.84$  respectively) in 'others' category. Also, pre-KI was lowest ( $8.0 \pm 0.91$ ) in '1-5 acre' land category and knowledge gain was lowest ( $34.12 \pm 1.94$ ) in '5-10 acre' land category.

**Table 3:** Pre-training KI, post-training KI and knowledge gain of poultry farming w.r.t independent variables

Age	Pre KI (Mean $\pm$ SE)	Post KI (Mean $\pm$ SE)	Knowledge gain (Mean $\pm$ SE)
< 30 years	10.95 <sup>a</sup> $\pm$ 1.18	46.86 <sup>b</sup> $\pm$ 0.69	35.90 <sup>b</sup> $\pm$ 1.09
31-45 years	11.27 <sup>a</sup> $\pm$ 1.53	52.18 <sup>a</sup> $\pm$ 1.45	40.91 <sup>a</sup> $\pm$ 1.46
$\geq$ 46 years	8.00 <sup>b</sup> $\pm$ 2.92	40.00 <sup>c</sup> $\pm$ 0	32.00 <sup>c</sup> $\pm$ 2.92
Education	<b>Pre KI</b>	<b>Post KI</b>	<b>Knowledge gain</b>
High school	8.00 <sup>b</sup> $\pm$ 1.21	50.67 <sup>a</sup> $\pm$ 2.57	42.67 <sup>a</sup> $\pm$ 2.27
10+2	9.14 <sup>b</sup> $\pm$ 1.66	46.57 <sup>c</sup> $\pm$ 0.83	37.43 <sup>b</sup> $\pm$ 1.24
Graduate and above	13.47 <sup>a</sup> $\pm$ 1.14	48.13 <sup>b</sup> $\pm$ 1.13	34.67 <sup>c</sup> $\pm$ 1.28
Income/year	<b>Pre KI</b>	<b>Post KI</b>	<b>Knowledge gain</b>
< 1 lakh	9.12 <sup>b</sup> $\pm$ 0.85	49.92 <sup>b</sup> $\pm$ 1.16	40.80 <sup>a</sup> $\pm$ 1.06
1-6 lakh	10.93 <sup>b</sup> $\pm$ 1.32	45.95 <sup>c</sup> $\pm$ 0.87	35.02 <sup>b</sup> $\pm$ 1.19
$\geq$ 6 lakh	20.00 <sup>a</sup> $\pm$ 2.31	56.00 <sup>a</sup> $\pm$ 2.31	36.00 <sup>b</sup> $\pm$ 4.62
Income source	<b>Pre KI</b>	<b>Post KI</b>	<b>Knowledge gain</b>
Only land	8.00 <sup>c</sup> $\pm$ 1.27	46.67 <sup>b</sup> $\pm$ 0.89	38.67 <sup>ab</sup> $\pm$ 1.01
Only animals	-	-	-
Land and animals	14.86 <sup>a</sup> $\pm$ 3.46	48.00 <sup>b</sup> $\pm$ 2.47	33.14 <sup>c</sup> $\pm$ 1.68
Land and others (service/business)	13.67 <sup>ab</sup> $\pm$ 1.43	46.67 <sup>b</sup> $\pm$ 1.42	33.00 <sup>c</sup> $\pm$ 2.42
Others	11.81 <sup>b</sup> $\pm$ 1.82	51.24 <sup>a</sup> $\pm$ 1.72	39.43 <sup>a</sup> $\pm$ 1.84
All three (land, animals, others)	8.00 <sup>c</sup> $\pm$ 2.92	44.00 <sup>c</sup> $\pm$ 1.46	36.00 <sup>b</sup> $\pm$ 3.86
Land (acres)	<b>Pre KI</b>	<b>Post KI</b>	<b>Knowledge gain</b>
Landless	17.33 <sup>a</sup> $\pm$ 2.23	56.00 <sup>a</sup> $\pm$ 1.46	38.67 <sup>a</sup> $\pm$ 3.37
01-May	8.00 <sup>c</sup> $\pm$ 0.91	46.26 <sup>c</sup> $\pm$ 0.89	38.26 <sup>a</sup> $\pm$ 1.14
05-Oct	12.47 <sup>b</sup> $\pm$ 2.05	46.59 <sup>c</sup> $\pm$ 1.53	34.12 <sup>b</sup> $\pm$ 1.94
>10	16.00 <sup>a</sup> $\pm$ 2.83	53.00 <sup>b</sup> $\pm$ 0.65	37.00 <sup>a</sup> $\pm$ 2.24
Overall	<b>10.80 <math>\pm</math> 0.88</b>	<b>47.94 <math>\pm</math> 0.74</b>	<b>37.14 <math>\pm</math> 0.89</b>

Figures with different superscripts in a column for different variables differ significantly ( $P < .05$ )

**Pre-training KI, post-training KI, knowledge gain w.r.t. mass media exposure, extension agency contact, social participation**

As can be inferred from Table 4, pre-KI and post KI are highest ( $15.33 \pm 2.82$  and  $50.0 \pm 1.52$  respectively) for high level of mass media exposure but knowledge gain is lowest ( $34.67 \pm 1.50$ ) for high level. Similar trend is followed for social participation.

**Table 4:** Pre-training KI, post-training KI and knowledge gain of poultry farming w.r.t. mass media exposure, extension agency contact, social participation

Mass Media Exposure	Pre KI	Post KI	Knowledge gain
	(Mean ± SE)	(Mean ± SE)	(Mean ± SE)
Low	8.12 <sup>c</sup> ± 1.07	46.38 <sup>b</sup> ± 0.86	38.25 <sup>a</sup> ± 0.97
Medium	12.00 <sup>b</sup> ± 1.29	48.92 <sup>a</sup> ± 1.49	36.92 <sup>a</sup> ± 1.95
High	15.33 <sup>a</sup> ± 2.82	50.00 <sup>a</sup> ± 1.52	34.67 <sup>b</sup> ± 1.50
Extension agency contact	Pre KI	Post KI	Knowledge gain
Low	8.14 <sup>b</sup> ± 1.28	45.86 <sup>b</sup> ± 0.98	37.71 <sup>a</sup> ± 1.29
Medium	12.57 <sup>a</sup> ± 1.14	49.33 <sup>a</sup> ± 0.99	36.76 <sup>a</sup> ± 1.21
High	-	-	-
Social participation	Pre KI	Post KI	Knowledge gain
Low	10.29 <sup>b</sup> ± 0.99	48.17 <sup>b</sup> ± 0.94	37.87 <sup>a</sup> ± 1.22
Medium	10.28 <sup>b</sup> ± 1.59	46.67 <sup>b</sup> ± 1.15	36.38 <sup>a</sup> ± 0.99
High	28.00 <sup>a</sup> ± 0	56.00 <sup>a</sup> ± 0	28.00 <sup>b</sup> ± 0

Figures with different superscripts in a column for different variables differ significantly ( $P < .05$ )

### Effect of Training and Its Interaction with Independent Variables on the Scores Obtained Before and After Training

As revealed in Table 5, training itself and training interaction with age, education, annual income, income source, land, mass media exposure, extension agency contacts and social participation, all had significant effect on scores obtained before and after training.

**Table 5:** Effect of training and its interaction with independent variables on the scores obtained before and after training

Source	DF	Mean square	F value	P value
Training	1	568.22	119.78	<.0001**
Training*age	2	96.87	20.42	<.0001**
Training*education	2	71.89	15.16	<.0001**
Training*income/year	2	22.02	4.64	0.015*
Training*income source	4	79.06	16.66	<.0001**
Training*land	3	51.105	10.77	<.0001**
Training*mass media exposure	2	93.23	10.65	<.0001**
Training*extension agency contact	1	56.48	11.9	0.0013*
Training*social participation	2	68.68	14.48	<.0001**
Error (training)	41	4.74		

### Conclusion

The study demonstrated significant increase ( $P < .01$ ) in the Knowledge index of trainees after training. The awareness level regarding various aspects of poultry management also increased. Therefore, scientific trainings on poultry farming are a must to gather information and clear doubts for effective farm management in order to obtain efficient production.

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