Evaluating perceived effectiveness of specialized trainings on pig farming

J.S. Hundal, Udeybir Singh*, J.S. Bhatti and S.K. Kansal

Department of Veterinary and Animal Husbandry Extension Education Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141 004, India

ABSTRACT

To evaluate the perceived effectiveness of specialized trainings on pig farming, 120 farmers were interviewed with a pre-tested questionnaire before the start and after completion of training. The study revealed that average age of respondents was 30.06 ± 0.90 years and out of which 15% respondents were graduates. Only 3.3% of the farmers belonged to high level knowledge category before training whereas after training 76.75% (P<0.01) of farmers possessed high level knowledge. The awareness perceived by farmers about breeding, feeding and management was significantly (P<0.05) higher after training. About 6.04 ± 0.12 and 19.1 ± 0.10 responses of farmers were found correct pre training and post training, respectively. Age and education also affect knowledge level of farmers about direction and dimensions of shed, feed requirement of lactating sow, common diseases of pigs, vaccination schedule, puberty age of boar where correct responses were significantly higher (P<0.05) for graduate farmers as compared to under matric ones and breeds of pigs, age of gilt at first conception, space requirement and right time for mating a sow where correct responses were significantly higher (P<0.05) for farmers between age group 25-35 years. Therefore, from present study it may be concluded that specialized training is an effective tool to improve the knowledge and understanding of farmers about pig farming.

Keywords: Perceived effectiveness, pig farming, knowledge level, trainings

Guru Angad Dev Veterinary and Animal Sciences University (GADVASU) Ludhiana regularly organizes trainings to educate the unemployed youth, farmers and farm women of Punjab and neighboring states about profitable livestock farming viz. dairy, poultry, piggery, fisheries, etc. Training is an integral and critical input for the human development for bringing out desirable changes in human knowledge (Biswas *et al.* 2008). Success of such trainings will be dictated by the perceived effectiveness whether these improve farmers' knowledge and understanding about technical aspects of livestock farming or not. So an effort has been made to study the training impact. This article presents the results

Address for correspondence

J.S. Hundal: Department of Veterinary and Animal Husbandry Extension Education Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141 004, India

E-mail: ubchahal1@india.com

of a study designed to assess the perceived effectiveness of specialized trainings on pig farming. Specifically, it addresses the issue of whether these trainings increase farmer's knowledge and understanding about pig farming.

METHODOLOGY

The present study was conducted on the farmers from different districts of Punjab who attended the specialized trainings on pig farming organized by Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana between July 1st 2013 to July 31st 2014. One hundred twenty farmers were interviewed with a pre-tested questionnaire before the start and after completion of training and results were prepared to know the perceived effectiveness of training. A set of 25 knowledgeable items, containing information on different aspects of pig farming were presented to the respondents. Each correct response was given a score of one. Respondents were categorized into three groups (Chandrashekhar *et al.* 1998) based on the mean (12.70) and standard deviation (7.46) as a measure of check.

Total score on knowledge	Knowledge category
Less than (Mean – ½ S.D.)	Low
Between (Mean ± ½ S.D.)	Moderate
More than (Mean + ½ S.D.)	High

The information about independent variables viz. age and education was collected with the help of structured schedule and scales. The data were analyzed by ANOVA (Snedecor and Cochran, 1994) by using the software package SPSS version 16 (SPSS, 2007) and differences in mean were assessed by using DUNCAN.

RESULTS AND DISCUSSION

Average age of respondents attended pig farming trainings was 30.06 ± 0.90 years and most of them (44.2%) belonged to 25-35 years age group. Out of total respondents about 39.17% were under matric and about 45.83 % farmers were entered in this profession after clearing their 10th examination and 15% respondents were graduates.

The data regarding knowledge level of farmers about pig farming (Table 1) revealed that 77.5% of the farmers belonged to low, 19.2% of the farmers belonged to moderate and only 3.3% of the farmers belonged to high level knowledge category before training whereas after training 76.75% (P<0.01) of farmers possessed high level knowledge (Table 2) which indicated that training is an effective tool to improve the knowledge level of farmers significantly. The results were agreed with Sharma *et. al.* (2014) where average knowledge score of the trainees increased from 4.44 to 6.32 after training. Similarly Ashraf *et al*. (2012) also reported significant (P<0.01) improvement in the knowledge level of the participants after attending the training.

The data highlights (Table 2) that the knowledge of farmers about breeds of pigs, age at which pigs should be marketed, age of gilt at first conception, age when boar should be ready to breed, gestation period and right time of mating in sows had low (17.5, 34.2, 52.5, 26.7, 55.0 and 13.4%, respectively) before training whereas it was significantly (P<0.05) higher after they got training (76.5, 87.5, 92.5, 86.5, 97.5 and 77.5%, respectively).

As balanced and economical feeding is the base of a successful pig farming, the study of knowledge of farmers regarding feeding practices of pigs indicated that only few farmers knew about feed requirement of lactating sow (22.5%), protein sources (5%), use of mineral mixture (5.8%), milk feeding of piglets (48.4%), flushing/steaming up (23.4%) and feed conversion efficiency (8.4%) of pigs before training. However, after training 82.5%, 65.8%, 61.7%, 90%, 65.8% and 72.5% of farmers had awareness about feed requirement of lactating sow, protein sources, use of mineral mixture, milk feeding of piglets, flushing/steaming up and feed conversion efficiency of pigs, respectively. The differences in pre and post training responses were significant (P<0.05). Kumar *et al*. (2013) also found highly significant difference (P<0.01) in the knowledge level of the respondents on cattle feed computation before and after training. Similarly Sharma *et al*. (2014) also reported significant (P<0.01) improvement in farmers' knowledge of feed management score (3.64 to 6.39) after attending training.

The poor knowledge of farmers (Table 2) found about space requirement (9.2%) and direction and dimensions of shed (13.4%) before training was significantly (P<0.05) improved by training.

Table 1: Knowledge level farmers regarding pig farming

Knowledge level	Frequency (n=120)		Percentile	
	Pre training	Post training	Pre training	Post training
Low (upto 8.97 score)	93[b]	0[a]	77.5	0
Moderate (8.98 to 16.43 score)	23	28	19.2	23.3
High (≥16.44 score)	4[a]	92[b]	3.3	76.7

Figures with different superscript in a row differ significantly, P<0.01

Table 2: Extent of perceived effectiveness of pig farming before and after training

S. No.	Statements	Frequency		Percentile	
		Pre training	Post training	Pre training	Post training
1	Breeds of pigs used in India for commercial pig farming	21[a]	92[b]	17.5	76.7
2	Name the states in which pig farming is popular in India	14[a]	67[b]	11.7	55.8
3	Age at which pigs should be marketed	41[a]	105[b]	34.2	87.5
4	Age of gilt at first conception	63[a]	111[b]	52.5	92.5
5	At what age a boar should be ready to breed	32[a]	104[b]	26.7	86.7
6	Gestation period of sow	66[a]	117[b]	55	97.5
7	Time after which a sow should be mated after initiation of heat signs	16[a]	93[b]	13.4	77.5
8	How many days before farrowing the pregnant animal should be separated from herd	89[a]	113[b]	74.2	94.2
9	Knowledge of flushing / steaming up in sow	28[a]	79[b]	23.4	65.8
10	Can we feed green fodder to pigs? If yes, how much	19[a]	61[b]	15.8	50.8
11	Feed requirement for lactating sow	27[a]	99[b]	22.5	82.5
12	Name protein sources in swine feed	6[a]	79[b]	5	65.8
13	How much mineral mixture is recommended in 100kg of swine feed	7[a]	74[b]	5.8	61.7
14	Feed Conversion efficiency of pigs	10[a]	87[b]	8.4	72.5
15	Milk feeding recommended for piglet at the age of	58[a]	108[b]	48.4	90
16	Knowledge regarding direction and dimensions of shed	16[a]	69[b]	13.4	57.5
17	Space requirement for an adult pig	11[a]	56[b]	9.2	46.7
18	Recom-mendations regarding cleaning of shed floor	83[a]	112[b]	69.2	93.4
19	Recommended deworming schedule of pigs	28[a]	99[b]	23.4	82.5
20	Common diseases of pigs	29[a]	101[b]	24.2	84.2
21	Name the disease/s from which a newborn piglet may suffer	29[a]	102[b]	24.2	85
22	Name the disease that can cause abortion in sows	3[a]	82[b]	2.5	68.3
23	Knowledge of vaccination schedule	4[a]	78[b]	3.4	65
24	Name the diseases of zoonotic importance in pigs	13[a]	97[b]	10.9	80.8
25	Is swine fever different from HINI that cause disease in human beings?	52[a]	102[b]	43.4	85

Figures with different superscripts in a row differ significantly, P<0.05

Table 3: Effect of Education and Age on mean correct responses due to perceived effectiveness of training

S No.	Statement	Education			Pooled S.E.	Age (years)			Pooled S.E.
		Under matric	10-12	Graduates		≤25	25-35	≥ 36	
1	Breeds of pigs used in India for commercial pig farming	0.524	0.443	0.550	0. 048	0.515[ab]	0.530[b]	0.385[a]	0. 048
2	Name the states in which pig farming is popular in India	0.299	0.340	0.400	0. 048	0.308	0.370	0.308	0. 048
3	Age at which pigs should be marketed	0.577	0.623	0.650	0.047	0.606	0.636	0.577	0.047
4	Age of gilt at first conception	0.739	0.764	0.825	0. 043	0768[b]	0.760[b]	0.577[a]	0.045
5	At what age a boar should be ready to breed	0.503[a]	0.575[ab]	0.650[b]	0.046	0.559	0.570	0.538	0.046
6	Gestation period of sow	0.739	0.764	0.825	0. 043	0.779	0.770	0.731	0. 043
7	Time after which a sow should be mated after initiation of heat signs	0.406	0.481	0.500	0.044	0.513[b]	0.460[ab]	0.346[a]	0.044
8	How many days before farrowing the pregnant animal should be separated from herd	0.870	0.840	0.825	0. 041	0.849	0.860	0.808	0. 041
9	Knowledge of flushing / steaming up in sow	0.406	0.453	0.500	0. 053	0.435	0.500	0.346	0. 053
10	Can we feed green fodder to pigs? If yes, how much	0.385	0.302	0.300	0.051	0.366	0.290	0.346	0.051
11	Feed requirement for lactating sow	0.492[a]	0.519[ab]	0.650[b]	0.046	0.514	0.570	0.481	0.046
12	Name protein sources in swine feed	0.352	0.349	0.375	0.043	0.387	0.350	0.308	0.043
13	How much mineral mixture is recommended in 100kg of swine feed	0.330	0.311	0.425	0.044	0.273	0.400	0.327	0.044
14	Feed Conversion efficiency of pigs	0.438	0.349	0.475	0.043	0.421	0.400	0.385	0.043
15	Milk feeding recommended for piglet at the age of	0.697	0.689	0.725	0.047	0.733	0.700	0.615	0.047
16	Knowledge regarding direction and dimensions of shed	0.289[a]	0.358[ab]	0.450[b]	0.050	0.342	0.380	0.288	0.050
17	Space requirement for an adult pig	0.310	0.226	0.350	0.047	0.205[a]	0.300[b]	0.365[b]	0.047
18	Recommendations regarding cleaning of shed floor	0.805	0.811	0.850	0.043	0.815	0.840	0.769	0.043
19	Recommended deworming schedule of pigs	0.535	0.519	0.550	0.047	0.549	0.520	0.538	0.047
20	Common diseases of pigs	0.459[a]	0.528[a]	0.750[b]	0.046	0.548	0.560	0.481	0.046
21	Name the disease/s from which a newborn piglet may suffer	0.513	0.557	0.625	0.046	0.548	0.570	0.519	0.046
22	Name the disease that can cause abortion in sows	0.320	0.406	0.400	0.043	0.364	0.410	0.308	0.043
23	Knowledge of vaccination schedule	0.341[ab]	0.311[a]	0.450[b]	0.042	0.296	0.380	0.365	0.042
24	Name the diseases of zoonotic importance in pigs	0.503[a]	0.575[ab]	0.650[b]	0.046	0.559	0.570	0.538	0.046
25	Is swine fever different from HINI that cause disease in human beings?	0.622	0.651	0.650	0.047	0.641	0.614	0.596	0.047

Figures with different superscripts in a row differ significantly, P<0.05

The awareness perceived by farmers regarding common diseases of pigs (24.2 vs 84.2%), newborn piglet diseases (24.2 vs 85%), abortion due to diseases (2.5 vs 68.3%), vaccination schedule (3.4 vs 65%) and deworming schedule (23.4 vs 82.5%) were significantly (P<0.05) higher for after training as compared to before training. Only 10.9% farmers having awareness about zoonotic diseases and 43.4% farmers knew about difference

between swine fever and H1N1 that was improved to 80.8 % and 85%, respectively (P<0.05). Biswas *et al.* (2008) also reported that there was a significant difference in knowledge of respondents on deworming, artificial insemination and vaccination as a result of training.

Critical study of data revealed that 6.04 ± 0.12 and 19.1 ± 0.10 responses of farmers were found correct pre training and post training, respectively that may be due to effect of training on knowledge level of farmers. Noor and Doha (2011) concluded that training had positive impact to the farmer's perception and performance. But it was observed that independent variables age and education also affect knowledge level of farmers about direction and dimensions of shed, feed requirement of lactating sow, common diseases of pigs, vaccination schedule, puberty age of boar where as correct responses were significantly higher (P<0.05) for graduate farmers as compared to under matric ones (Table 3) and breeds of pigs, age of gilt at first conception, space requirement and right time for mating a sow where correct responses were significantly higher (P<0.05) for farmers between age group 25-35 years (Table 3). Findings are agreed with Patil *et al.* (2009) who found a positive and significant relationship between education and training needs of the farmers

The reason for higher knowledge of the trained respondents might be due to appropriateness of the covered subject matter, practical training environment, use of multimedia teaching aids, experienced experts and exposure visit at pig farm etc. Higher interest of trainees and availing of opportunity to discuss their doubts with specialists may be another possible reason for their improved knowledge level.

Conclusions

The scientific knowledge about any enterprise is crucial for its success. The present study revealed that there is a highly significant (P<0.05) improvement in the knowledge of pig farmers on various aspect of pig rearing traditionally as well as scientifically. Age and education status of piggery farmers were also influence their knowledge level. Therefore, from present study it may be concluded that specialized training is an effective tool to improve the knowledge and understanding of respondents about pig farming but it is suggested that regular training programme must be made compulsory for the development of the interest and knowledge of piggery farmers to updates them with latest trends and research in pig farming.

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