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Constraints Faced by Livestock's Farmer in Adoption of Scientific Technology

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ABSTRACT

The study was conducted to review the situation of animal husbandry in Rohilkhand region of Uttar Pradesh with the objective to identify major constraints of the livestock farmers in adapting the recommended animal husbandry practices. The respondents were undergone training at the KVK, IVRI in various aspects of animal husbandry. The study revealed that limited space and other resources available for providing scientific housing to dairy animals was the very serious constraints as experiences by the respondents. The second rank constraint was non-availability of livestock extension officers and veterinary doctors in time among respondents; Preference for natural service is the third serious constraints in adoption of improved dairy farming practices. Respondents reported that there was no dearth of scrub bulls, but lacking good quality bulls. Many time farmers preferred these scrub bulls because of distant availability of good quality bulls. Other reasons for prefer natural servicing is the lack of A.I. centre, distant location of veterinary dispensary, lack of awareness about A.I. and improved breeding practices. Prevalence of the belief that colostrums feeding is unhygienic and it may be harmful to the health of newborn calves.

1. Introduction

It is said that the fundamental problem of agriculture growth is of education (Wharton, 1965), There is a need of education for the rural development, in general, and agricultural development, in particular. In this context, the education has two components: a) research in agriculture to develop newer technologies and new inputs of production, and b) education farmers to improve their skills, replace their traditional attitudes with modern ones and improve their innovative and allocative abilities, *etc*. The farmers education and extension contacts enable them to require access and avail new information and evaluate benefits of alternative sources of economically useful information besides higher allocative and productive efficiencies. Further, the impact of education and extension is higher underthe low technology than higher technology conditions, andthis impactisnot instantaneous;it issequential. The research system have though generated highly useful results for synthesis of appropriate technologies for farmers, most of these have been either not adopted or adopted partially by the farmers. The study was designed with the objective to analysis the constraints in adoption of scientific practices by the livestock farmers.

2. Materials and Methods

The study was conducted in Rohilkhand region of Uttar Pradesh. The state has a geographic area of 29.44 million ha which is about 9% of the land area of the country. It lies between lat. 23˚ 52 and 31˚ 28 N and long. 77˚ 5 and 84˚ 38 E. The IVRI, KVK Izatnagar, Bareilly organized various training programme on different aspect of agricultural science. In this study we includes training programme organized between 2005 to 2010 during this five years more than 10 training training programme were

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conducted at KVK in various topic of animal husbandry and dairying included in the study. In order to have accurate and valid information an exhaustive list of participants, who have been the beneficiaries of any of the training programme was made from each selected topic. Data were collected through personal interview of 200 respondents, using a well-designed questionnaire. Simple tabular using ranks and percentages were conducted.

3. Result and Discussion

Constraints in the present investigation has been operationalized as the reason for non-adoption of improved breeding, feeding, health-care, management and overall. These constraints were ascertained by asking open-ended question and on the responses.

3.1 Animal breeding related constraints

The data presented in Table 1 showed that majority of respondents experienced the constraints such as preference of natural service (91%), lack of good bredable bulls (88%) and lack of A.I. centre, ill equipped A.I. centre, lack of service at A.I. centre, distant location of veterinary hospital (86%) and they were in 1st , 2nd and 3rd ranks, respectively followed by high cost involved in calling veterinary staff for treatment of breeding related problem (83%), anestrus and repeat breeding (68%), lack of knowledge about right time of servicing the animals after calving (64%), poor conception rate in animals (61%),scarcity of resources to maintain crossbred/ superior breed of milk animals (59%) large number of villages under one livestock extension officers (55%) and lack of knowledge about pregnancy diagnosis, false belief that animals which are covered through natural services are invariably pregnant (53%) and these were in 4th , 5th , 6th, 7th , 8th , 9th and 10th ranks respectively .

The present finding are in compliance with those of Sharma and Makhija (1991), Venkatasubramanian and Ram Chand (1993) also reported distant location of veterinary institutions as the constraints perceived by majority of the respondents. Present findings further get support from Pandey (1996) and Sah (1999) who also reported that lack of knowledge about the right time of servicing the animals after calving and getting pregnancy diagnosis done were the constraints perceived by majority of the respondents. However, the present finding in contradictory with that of Venkatasubramanian (1994) who reported that distant location of A.I. centres was perceived as a constraints by least number of respondents. It is also evident from the same table that preference of natural service, lack of good bredable bulls and high cost involved in calling veterinary staff for treatment of breeding related problem were on first, second and third ranks. Farmers were deficient in knowledge regarding age at first heat, age of first calving, calving interval, A.I. per conception *etc.* due to improper knowledge of these aspects. One of the reasons was that insemination was done once as against the recommendation of double insemination therefore, insemination should be done twice during the heat period to improve the conception rate. In the absence of veterinary hospital respondents were forced to adopt ITK in the treatment of breeding related problems or consulted with village quack. Many times quacks were unable to identify the problem, resulted in the death of animals and keeping the farmers under economic pressure. Many times, farmers pre engaged in some other works, they avoid going other village/ town for the treatment of breeding problem and trying to find out solution on their own level. The above mentioned constraints were perhaps the reasons for resorting of majority of farmers in the area on natural service with locally available unknown pedigree bull, as well as low productivity of milch herd in the state, leading to a low milk production and thus low per capita availability.

Table 1. Constraints related to animals breeding

Sl. No.	Constraints	Frequency percentage	Ranks
1	Lack of A.I. Centre, ill equipped A.I. Centre, Lack of services at A.I. Centre, Distant location of Veterinary hospital	172 (86)	III
2	Poor conception rate in animals.	122 (61)	VII
3	Preference of natural service.	183 (91)	I
4	Lack of knowledge about pregnancy diagnosis false belief that animals, which covered through natural services, are invariably pregnant.	106 (53)	X
5	Anestrus and repeat breeding.	136 (68)	V
6	High cost involved in calling Veterinary staff for treatment of breeding related problems.	166 (83)	IV
7	Lack of good bredable bulls.	176 (88)	II
8	Lack of knowledge about right time of servicing the animals after onset of heat, getting P.D. done after service time of animals after calving.	129 (64)	VI
9	Large numbers of village under one Livestock Extension Officers.	110 (55)	IX
10	Scarcity of resources to maintain crossbred / superior breed of milch animals	118 (59)	VIII

3.2 Animal feeding related problems

The data shown in table 2 indicate that majority of the respondents constraints experienced as belief that colostrums feeding in unhygienic and it may be harmful to the health calves (90%), high cost involved in purchase of ingredients concentrate mixture (86%) and lack of knowledge about proper amount of concentrate feeding (80%), and they were on 1st, 2nd and 3rd ranks, respectively. Whereas belief that feeding of available grasses, weeds and leaves from fodder trees collected from nearby forest are sufficient for animals feeding (79%), belief that advance pregnant animals need to be feed low quantity of concentrate, as these are hot for the animals (75%) non-availability of information about balance feeding (67%) lack of awareness about treatment of poor quality straw to improve its nutritive value (61%), scarcity of green fodder round the year (59%), distant location of market for purchase of concentrate and mineral mixture (57%), and belief that feeding should be given on the basis of production (i.e. concentration only milch animals (51%) were 4th, 5th, 6th, 7th, 8th, 9th and 10th ranks respectively as the constraints in improved feeding practices. The present findings are in support of Ram (1994), Venkatasubramanian (1994), Kumar (2001), who revealed that non-availability or poor availability of green fodder and poor resources for green fodder cultivation were the constraints perceived by respondents Balakrishna (1997) reported under feeding of animal due to paucity of resources with farmers as constraints, perceived by the least number respondents. Respondents were deficient in knowledge regarding roughage, concentrate, mineral mixture *etc.* which are the essential components of balanced feed. Meena (2000), also reported that lack of knowledge of balance feeding among farmers. Non-availability of feed in the market, nation of reduction fat content of the milk, admixture with cheaper material were the reasons for none adopt of compounded cattle owners quite ignorant about mineral mixture. Respondents were feeding dry fodder to their animals that were available with them in large quantity and there was scarcity of green fodder/ legumes fodder. They were not able to affort the high price of feeds and concentrates to meet the requirement of their animals especially the milch animals. This situation invariably contributed to the under feeding of animals. Moreover, the quality, price and timely availability of feeds also determined to extent of adoption of improved feeding practices, which need to be talked by the concerned agencies or institutions.

3.3 Animal health-care related problems

The data shown in table 3 revealed that non availability of livestock extension officers and veterinary doctors in time (93%), distant location of veterinary dispensary (87%) and belief that anger of god(s)/ goddess(s) cause diseases in animals (80%) were 1st, 2nd, and 3rd ranks, respectively. Whereas high cost of veterinary medicine and vaccines (78%), lack of awareness about the importance of vaccination (73%), believes that vaccination reduced milk yield in animals (69%), more faith on jadu / tona for treatment of animals rather than modern veterinary treatment (67%), lack of knowledge/disposing off carcass of diseased animals (65%), lack of knowledge about symptoms of common contagious diseases and their prevention measures (61%) and lack of knowledge about the importance of isolating the diseased animals (55%) were 4th, 5th, 6th, 7th, 8th, 9th and 10th ranks, respectively as constraints experienced by the farmers in adoption of improved health care practices.

Table 2. Constraints related to animals feeding

Sl. No.	Constraints	Frequency percentage	Ranks
1	Prevalence of the belief that colostrums feeding is unhygienic and it may be harmful to the health of calves.	180 (90)	I
2	High cost involved in purchase of ingredients of concentrate mixture.	172 (86)	II
3	Lack of knowledge about proper amount of concentrate feeding.	160 (80)	III
4	Belief that available feed like grasses, weeds and leaves from fodder trees collected from nearby forest area is sufficient for animals feeding.	158 (79)	IV
5	Belief that advanced pregnant animals need to be fed low quantity of concentrates, as these are, hot, for the animals.	150 (75)	V
6	Non-availability of information about balance feeding.	134 (67)	VI
7	Lack of awareness about treatment poor of quality straw to improve its nutritive value.	122 (61)	VII
8	Scarcity of green fodder round the year.	118 (59)	VIII
9	Distant location of market for purchase of concentrate and mineral mixture.	114 (57)	IX
10	Belief that feeding should be given on the basis of production (*i.e.* concentration only for milch animals).	102 (51)	X

These findings are in associate with those reported by Venkatasubramanian (1994) who also found that inadequate knowledge of disease symptoms among the farmers as an important constraints in adoption the improved health-care practices. Findings of Sharma and Mukhija (1991), Venkatasubramanian and Ram Chand (1993), Kumar (1995) and Pandey (1996) also reported that distant location of various veterinary units in support of the present study. Meena (2000) and Kumar (2001) also reported the lack of faith in modern medicines among the sizeable number of respondents. Presence of the above mentioned constraints could be the reasons available indigenous herbs and medicines for treatment of sick animals. There was less variation/ more agreements regarding the particular constraints among the farmers it is always seen that most of the veterinary surgeons avoid staying/ settling in village, and it was because of lack of infrastructure facilities for living in rural areas. Most of them were coming late in office and left office earlier than the timing of office. These findings donate the severe inadequate facilities for diagnosis of the disease, lack of adequate resources with farmers for better management and treatment of sick/ diseased animals and poor transports facilities to attend the causes well in time by expert. All these constraining factors lead to the increased incidence of animals diseases, especially FMD, mastitis and milk fever in the study areas. but the researchers viewed unhygienic environmentin the farmersanimal sheds and proper housing for animals due to lack of resources, which causing high incidence of diseased in the farmers herd.

3.4 Constraints related to management

The data from Table 4 revealed that limited space and other resources available for providing scientific housing to dairy animals. (96%), inadequate credit facilities for purchasing necessary inputs (90%),lack of knowledge about clean milk production practices 84% and they were 1st, 2nd and 3rd ranks, respectively, and lack of knowledge about right time of drying off pregnant animals (81%), high investment in scientific management of animals (77%), lack of awareness about cleaning and sanitation of animals and cattle shed (71%), easy availability of local substitutes (67%), scarcity of clean drinking water facilities for animals (63%), reliance on the indigenous methods of deworming andcastration as they are considered to be more convenient effective and cheap (55%) and lack of knowledge about importance of deworming and dehorning (51%) were 4th, 5th, 6th, 7th, 8th, 9th and 10th ranks, respectively as constraints experienced by the farmers in adoption of improved management practices. The findings of Balakrishna (1997) and Sah (1999) are in line with above findings who reported that improper housing of animals due to lack of knowledge was perceived as a constraints by least percentage of dairy farmers. On the whole, it can be said that management practices in the study area were not practiced systemically. This may be due to lack of proper communication, education and extension contacts.

Table 3. Constraints Related to Health-Care

Sl. No.	Constraints	Frequency percentage	Ranks
1	Belief the anger of god(s) / goddess(s) cause diseases in animals.	161 (80)	III
2	Distant lactation of veterinary dispensary.	174 (87)	II
3	Non-availability of LEO and veterinary doctors in time.	186 (93)	I
4	Lack of knowledge about the symptoms of common contagious diseases and their preventive measures.	123 (61)	IX
5	Lack of knowledge about the importance of isolating the diseased animals.	111 (55)	X
6	Cost of veterinary medicines and vaccines is very high.	157 (78)	IV
7	Belief that vaccination reduce milk yield in animals.	138 (69)	VI
8	Lack of awareness about the importance of vaccination.	146 (73)	V
9	Lack of knowledge / disposing off the carcass of diseased animals.	130 (65)	VIII
10	More faith on jadu / tona for treatment of animals rather than modern veterinary treatment.	134 (67)	VII

Table 4. Constraints related to Management

Sl. No.	Constraints	Frequency percentage	Ranks
1	Lack of knowledge about importance of deworming and dehorning.	102 (51)	X
2	Reliance on the indigenous methods of deworming and castration as they are considered to be more convenient, effective and cheap.	110 (55)	IX
3	Limited space and other resources available for providing scientific housing to dairy animals.	192 (96)	I
4	Scarcity of clean drinking water facilities for animals.	126 (63)	VIII
5	Lack of knowledge about clean milk production practices.	168 (84)	III
6	Lack of knowledge about right time of drying off pregnant animals.	162 (81)	IV
7	Easy availability of local substitutes.	134 (67)	VII
8	Lack of awareness about cleaning and sanitation of animals and cattle shed.	142 (71)	VI
9	High cost investment in scientific management of animals.	154 (77)	V
10	Inadequate credit facilities for purchasing necessary input.	180 (90)	II

Table 5. Constraints overall animals husbandry

Sl. No	Constraints	Frequency percentage	Ranks
1	Limited space and other resources available for providing scientific housing to dairy animals.	192 (96)	I
2	Non-availability of livestock officers and veterinary doctors in time.	186 (93)	II
3	Preference for natural service.	183 (91)	III
4	Preference for growing food crops and cash rather than fodder crops.	182 (91)	IV
5	Prevalence of the belief that colostrums feeding are unhygienic and it may be harmful to the health of calves.	180 (90)	V

3.5 Constraints in adoption of overall Animals husbandry practices

The data presented in theTable 5 indicates that limited space and other resources available for providing scientific housing to dairy animals was a very serious constraint as experienced by the respondents. Farmers had very low space in housing, annual income and other resources, so they cannot provided scientific housing and purchase necessary inputs for their animals, is the reason for this problems it may be increased with improved of annual income, education, extension contact awareness about improved management practices. The second rank constraints was non-availability of livestock officers and veterinary doctors in time among respondents. It is always seen that most of the veterinary surgeons avoid to stayin villages due mainly to lack of infrastructure facilities for living in rural area. Avoid this irregularity concerned departments should be take some steps towards it. Preference for natural service is the third serious constraints in adoption of improved dairy farming practices. Respondents reported that there was no dearth of scrub bulls, but lacking good quality bulls. Many time farmers preferred these scrub bulls because of distant availability of good quality bulls. It was also felt that there was lack of pregnancy testing bulls. Other reason for prefer natural servicing is the lack of A.I. centre, distant location of veterinary dispensary, lack of awareness about A.I. and improved breeding practices. Prevalence of the belief that colostrums feeding is unhygienic and it may be harmful to the health of newborn calves. Possible seasons of this constraints may be uneducated, lack of knowledge about colostrums feeding, lack of extension contact and blind faith on god/goddess of rural communities. Overall, it can be safely said that an effective and meticulous planning with an eye on individual constraints might relieve the farmers of most of the problems being encountered by them at present. The planning and policy makers shall have to take up each and every constraints as a challenge to them and have to work on scientific lines in close collaboration with researchers for utilizing already available resources and to develop an effective mechanism andstep directed towards mitigating these constraints.

Conclusion

From the present study, it was concluded that limited space and other resources available for providing scientific housing to dairy animals, preference for natural service, inadequate knowledge of diseases through prevention and control, followed by non-availability of artificial insemination facilities and timely veterinary services and non-availability of veterinary hospitals were responded as important constraints in order of its nature and severity.

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