

Impact of foundation course training on knowledge of staff of Karnataka State Department of Agriculture

Training in agriculture is an intensive learning activity for an extension personnel assisted by competent trainers to understand and practice the skills required in adoption of new agriculture technologies at a place where appropriate facility exist and the duration considered suitable by the trainees. In view of the changing scenario, of agriculture the extension personnel require latest knowledge and skill for transferring technologies to the farmers. Agricultural development today calls for well trained extension personnel to keep pace with changes as they are a vital link between research, organization and farmers (Faiz and Narayanaswamy, 2012).

With a view to promote professional competency in agriculture, among the staff of various organizations within and outside the state of Karnataka. The Staff Training Unit (STU) at UAS, Dharwad was started in 1992. The STU is organizing institutional training courses; field oriented training programmes for various personnel of private, government and quasi-government organizations (Natikar and Devendrappa, 2007). The Karnataka State Department of Agriculture during 2013 – 2014 deputed all the Assistant Agricultural Officers, Agricultural Officers and Assistant Directorate of Agriculture to receive one week “Foundation Course Training” at the Agricultural Universities. Accordingly the technical staffs of department of agriculture of the districts under the jurisdictions of UAS Dharwad were deputed to Staff Training Unit Directorate of Extension UAS Dharwad. Therefore, the present study was undertaken to assess the knowledge gain of trainees on various agricultural aspects.

The study was conducted during 2015-2016 in purposively selected districts under the University of Agricultural Sciences, Dharwad. viz., Dharwad, Gadag, Belagavi, Haveri, Vijayapur, Bagalkot and Uttar Kannada of Karnataka state. The sample for the study consisted of 150 officials of the Karnataka State Department of Agriculture who had attended the “Foundation Course Training” during 2013-2014. A questionnaire was developed keeping in mind the objectives of the study. The data was collected by mailed questionnaire. The tabulated data was analyzed by simple frequencies and percentages. For the present study an operational measure for knowledge was

developed by constructing a teacher made knowledge test on three topics namely; Integrated Pest Management, Soil-Water-Plant Relationship and Organic Farming & Vermiculture. Ten multiple choice questions were framed for each selected topic. A score of one was given to the right answers and zero to the wrong answer. Therefore the minimum and maximum scores ranged from 0 – 10. For each of the topic the knowledge index for individual respondents was calculated by using the formula as followed by Dalavi (2010).

$$\text{Knowledge Index} = \frac{\text{Scores obtained}}{\text{Obtainable scores}} \times 100$$

Table 1 pertaining to knowledge of trainees with regard to Integrated Pest Management (IPM) reveals that, the trainees had high knowledge about gundhi bug insect attack on rice during milking stage (91.33%) followed by control of loose smut by seed treatment (90.66%) and control of bacterial diseases by use of antibiotics (82.00%). About 81 per cent of trainees knew about intercropping of pigeon pea with sorghum, followed by spread of leaf curl of tomato by white fly (79.33%), IPM relying heavily on economic threshold level was known by 76 per cent. Nearly 60 per cent of trainees had knowledge that early blight of potato is a soil borne disease and that in rice, hopper burn is caused by hopper insects was known by 64.66 per cent. The trainees had very less knowledge about termite being a serious pest in wheat (38.66%) and flooding of the fields as a means to control white grubs, termites and cut worms (35.33%). The overall knowledge index was 69.73 meaning that their knowledge about IPM is to the extent of 69.73 per cent. This could be due to the fact that most trainees developed a good understanding of the subject. Integrated Pest Management to overcome the ill effects of the indiscriminate use of chemical pesticides is the need of the hour. Farmers also demand IPM technology to save costs, and protect land, animals & human health. Similar findings are reported by Sharma *et al.* (2013) and Kriesemer *et al.* (2012).

Table 2 reveals a very high percentage of trainees ranging from 90-100 per cent know that sesbania is a green manure crop (100%), they are aware of the enemies of earth worms (100%),

Table 1. Knowledge of trainees with regard to Integrated Pest Management Statements

	Know		Don't know	
	F	%	F	%
Integrated Pest Management relies heavily on economic threshold level	114	76.00	36	24.00
White backed plant hopper causes hopper burn in rice	97	64.66	53	35.33
Flooding of fields controls white grubs, termites and cut worms	53	35.33	97	64.66
Termite is the most serious pest in wheat	58	38.66	92	61.33
Early blight of potato is a soil borne disease	87	58.00	63	42.00
Pigeon pea intercropping with sorghum is an effective wilt control method	122	81.33	28	18.66
Loose smut can be controlled by seed treatment	136	90.66	14	9.33
Bacterial diseases are controlled by use of antibiotics	123	82.00	27	18.00
Gundhi bug insects attack rice during milking stage	137	91.33	13	8.66
Leaf curl of tomato is spread by white fly	119	79.33	31	20.66
Overall Knowledge Index	69.73			

the meaning of organic farming (92.00%) and right method of vermicompost storage (90.66%). A considerable per cent of trainees ranging from 70-85 per cent had knowledge of the raw materials used for production of vermicompost (85.33%) and method of harvesting of vermicompost (70.66%). About 50-60 per cent trainees had knowledge about the right time of introduction of earth worms in the pit (60.66%), time for harvesting of vermicompost (58.00%), use of azolla as bio fertilizers (54.00%) and amide fertilizers as source of nitrogen to plants (50.00%). The overall knowledge index was 76.13 meaning that their knowledge about organic farming and vermiculture is to the extent of 76.13 per cent. The probable reasons for possessing high knowledge about organic farming and vermiculture could be exposure to these concepts whether through mass media or by the way of repeated trainings attended in different training centers / institutions / universities. Vermicompost is also being strongly recommended by scientists and propagated in a big way by intensive awareness campaigns organized by the state Department of Agriculture.

Table 3 reveals 97.33 per cent trainees had high knowledge about suitability of different irrigation methods and drip irrigation systems. This was followed by 93.33 per cent trainees having knowledge about Command Area Development Authority. That black soils are rich in organic content with

better water holding capacity is known by 84 per cent, border irrigation is known by 78.66 per cent, drip irrigation method for horticulture crops is known by 77.33 per cent, types of sprinklers used for small areas, soil is a three phase matter is known by 68.66 per cent each and knowledge of dams as source of water for major irrigation projects is known by 63.33 per cent. The best method of irrigation of maize crop is known by 54.66 per cent. The overall knowledge index was 78.33 meaning that their knowledge about soil-water and plant relationship is to the extent of 78.33 per cent. This might be due to the reason that the extension personnel of the department disseminate innovative practices regarding soil-water and plant relationship through programmes like Krishi Honda Bhagya, Bhuchetan, Jalanayan Abhivruddhi Yojana, etc. Such trainings and awareness campaigns on various schemes and mass media exposure might have increased their knowledge on soil-water and plant relationship.

The findings clearly show high knowledge indices for the three topics i.e. Integrated Pest Management with an index of 69.73, organic farming and vermiculture with an index of 76.13 and soil-water & plant relationship with an index of 78.33. The indices indicate the extent of knowledge in terms of percentages which are in the high range of 70-80 percent. This shows that trainings have been effective in empowering the trainees in

Table 2. Knowledge of trainees with regard to organic farming and vermiculture

Statements	Know		Don't know	
	F	%	F	%
Organic farming is the technique of raising crops through natural materials	138	92.00	12	8.00
Sesbania is a green manure/ bio fertilizer	150	100.0	00	0.00
Azolla is used as bio fertilizer as it has cyano bacteria.	81	54.00	69	46.00
Amide fertilizers are quick available sources of nitrogen to plants	75	50.00	75	50.00
Dry vegetative matter, wet organic waste and dung are major materials used for production of vermicompost	128	85.33	22	14.66
Earthworms should be introduced in the pit after 15 days of watering	91	60.66	59	39.33
Vermicompost should be stored in polythene bag	136	90.66	14	9.33
Vermicompost will be ready for harvesting in 3 month	87	58.00	63	42.00
Major enemies of the earthworms are termites, ants & flat worms	150	100.0	00	0.00
Before harvesting of vermicompost watering should be stopped in fifteen days	106	70.66	44	29.33
Overall Knowledge Index	76.13			

Table 3. Knowledge of trainees with regard to soil-water & plant relationship

Statements	Know		Don't know	
	F	%	F	%
Dam is the source of irrigation for major irrigation projects	95	63.33	55	36.66
CADA stands for Command Area Development Authority	140	93.33	10	6.66
Soil is a three phase matter	103	68.66	47	31.33
Black soils are rich in organic content and have better water holding capacity	126	84.00	24	16.00
Suitability of different irrigation methods depends on soil, available discharge and crop	146	97.33	04	2.66
Border irrigation is most commonly used in grain crops, row crops, horticulture crops and vegetable crops	118	78.66	32	21.33
For irrigation maize crop planted in rows, the best irrigation method is furrows	82	54.66	68	45.33
Perforated types of sprinklers are used for small areas	103	68.66	47	31.33
Drip irrigation method is found more suitable for irrigating horticulture crops, vegetable crops and field crops	116	77.33	34	22.66
Drip irrigation system consists of pipe line systems, filters and fertilizer tanks	146	97.33	04	2.66
Overall Knowledge Index	78.33			

Impact of foundation course training on

terms of knowledge who in turn put this knowledge to serve the farming community. The Staff Training Unit has achieved much success in its endeavor and should aim to increase the

knowledge further. Trainings of new and emerging topics should be organized. The trainings should also be a continuous effort to reinforce the knowledge gained.

Department of Extension and Communication Management
College of Rural Home Science
University of Agricultural Sciences
Dharwad - 580 005, Karnataka, India
E-mail: roopaun16@gmail.com

ROOPA U. NATAGALL
SHOBHA NAGNUR

(Received: July, 2016 ; Accepted: December, 2016)

References

- Dalavi, M., 2010, Devadasi women- An exploratory study. *M.Sc. (H.Sc.) Thesis*, Univ. Agric. Sci., Dharwad, Karnataka (India).
- Faiz, A. and Narayanaswamy, B. K., 2012, Knowledge level and training methods preferred by trainees of Staff Training Unit, UAS, Bangalore. *Mysore J. Agric. Sci.*, 46(1): 181-182.
- Kriesemer, S. K., Srinivasan, R., Ravishankar, M. and Bhushan, B., 2012, Assessing the impact of an Integrated Pest Management training course in Jharkhand. *J. Extn. Edu.*, 24(3): 4887-4891.
- Natkar, V. K. and Devendrappa, S., 2007, An evaluation of impact of training programmes organized by the Staff Training Unit, UAS, Dharwad. *Mysore J. Agric. Sci.*, 41(4): 541-546.
- Sharma, R., Sharma, K. S. and Porwal, R., 2013, Perception on in-service personnel on Integrated Pest Management (IPM) training. *African J. Agric. Res.*, 8(37): 4592-4595.