IMPACT OF TRAINING ON SYMBOLIC ADOPTION BEHAVIOR OF THE TRAINEE FARMERS ABOUT INTEGRATED WEED MANAGEMENT

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ABSTRACT

A study was conducted in 2018- 2019 on a randomly selected 120 trainee farmers trained under AICRP - Weed Management project, Anand Agricultural University, Anand regarding different practices of Integrated Weed Management. The results revealed that before training slightly more than two fifth (43.33 %) of the trainee had a very low level of symbolic adoption, followed by 24.17 per cent had a low , 15 per cent had a medium, 13.33 per cent had a high and 4.17 per cent had a very high level of symbolic adoption, respectively . In case of after the training exactly two fifth (40 %) of them had a very high level of symbolic adoption, followed by 32.50 per cent had a high, 14.17 per cent had a medium, 10 per cent had a low and only 3.33 per cent had a very low level of symbolic adoption, respectively . Whereas in case of effectiveness, before training programme the mean score for symbolic adoption of the trainees with respect to different practices related to Integrated Pest Management was found 30.65 and it was reached to 72.94 after the training with a net gain of 42.29.

Keywords: *symbolic adoption, integrated weed management, trainee farmers*

INTRODUCTION

Weeds are a major impediment to crop production through their ability to compete for resources and their impact on product quality. In the agro ecosystems, ideal environmental conditions provided for optimal crop productivity are being exploited by the associated weeds. Weeds are responsible for heavy yield losses in all the crops. Weeds not only cause huge reductions in crop yields but also increase the cost of cultivation, reduce input efficiency, interfere with agricultural operations, impair quality, act as alternate hosts for several insect-pests, diseases, affect the aesthetic look of the ecosystem, native biodiversity, as well as effect human and cattle health. Weeds are known to account for nearly one-third of the losses due to various biotic stresses. Weed control is one of the major input costs of crop production.

Integrated Weed Management (IWM) is more of concept, which necessarily embraces that a combination of methods of weed control rather than a single method is exercised in a coordinate way to bring down weed population below an economic threshold level. Integrated Weed Management is considered a more practical approach more effective in the long run since the combination of methods will take care of weeds in totality and prevents seed production of weeds and enrichment of soil seed bank. It provides longer and continuous control of weeds than any individual methods since it normally overcomes the existing losses of the individual method of weed control applied in isolation. In this contexts, Government of Gujarat had sanctioned training programme on integrated weed management during 12th FYP and this scheme is running under DoEE, AAU, Anand by Scientist and Head, AICRP, BACA, AAU, Anand. So, it is worth to study the impact of training on symbolic adoption behavior of the trainee farmers about integrated weed management.

OBJECTIVES

(1) To know the profile of the trainee farmers

(2) To study the symbolic adoption behavior of the trainee farmers about Integrated Weed Management

METHODOLOGY

AICRP - Weed Management project, Anand Agricultural University, Anand is providing training to the

trainee farmers on Integrated Weed Management, out of the total trainee farmers 120 trainee farmers were interviewed by simple random sampling method. Applicable statistical tools were used for the analysis and interpretation. The paired "t" test was used. Change in symbolic adoption was measured by using following formula.

Change in Symbolic adoption = Mean symbolic adoption index after training - Mean symbolic adoption index before training

RESULTS AND DISCUSSION

(1) Profile of the trainee farmers

Table 1: Profile of the trainee farmers (n= 120)

Sr. No	Characteristic	Category	Frequency	Percent
1	**Age**	Young (up to35 years)	27	22.50
		Middle (36 to 50 years)	49	40.83
		Old (51 years & above)	44	36.67
2	**Category**	General	71	59.17
		SC	07	05.83
		ST	05	04.17
		OBC	37	30.83
3	**Education**	Illiterate	00	0.00
		Primary (1 to 7 std)	31	25.83
		Secondary (8 to 9 std)	23	19.17
		Higher Secondary (10 to 12 std)	51	42.50
		College & Above	15	12.50
4	**Land holding**	Marginal (Below 1.0 ha)	63	52.50
		Small (1.01 to 2.0 ha)	37	30.83
		Medium (2.01 to 4.0 ha)	14	11.67
		Large (Above 4.0 ha)	06	05.00
5	**Annual income**	Up to ₹ 20,000	03	02.50
		₹ 20,001 to 40,000	30	25.00
		₹ 40,001 to 60,000	33	27.50
		₹ 60,001 to 80,000	10	08.33
		Above ₹ 80,000	44	36.67
6	**Previous training participation**	No Training	58	48.33
		One Training	40	33.33
		Two Training	14	11.67
		Three Training and above	08	06.67
7	**Social participation**	No membership	16	13.33
		Membership in one organization	38	31.67
		Membership in more than one organization	48	40.00
		Position holder in organization	18	15.00
8	**Extension contact**	Very low (up to 3.2 score)	31	25.83
		Low (3.21 to 6.40 score)	36	30.00
		Medium (6.41 to 9.60 score)	35	29.17
		High (9.61 to 12.80 score)	10	8.33
		Very high (12.81 to 16.00 score)	08	6.67
9	**Mass media exposure**	Very low (up to 3.2 score)	27	22.50
		Low (3.21 to 6.40 score)	41	34.17
		Medium (6.41 to 9.60 score)	28	23.33
		High (9.61 to 12.80 score)	19	15.83
		Very high (12.81 to 16.00 score)	05	4.17

From the table 1 it can be concluded that slightly more than two fifth (40.83 percent) of the respondents belonged to middle age group, a more than half (59.17 percent) of the trainee respondents were belonged to general category, slightly more than two fifth (42.50 percent) of the trainee respondents had a higher secondary level of education, slightly more than half (52.50 percent) of the trainee farmers had a marginal size of land holding, slightly more than one third of the trainee farmers (36.67 per cent) had annual income above ₹ 80000, slightly less than half (48.33 percent) of the trainee farmers had no previous training participation, exactly two fifth (40.00 percent) of the trainee farmers were a member in more than one organization, slightly less than one third (30.00 percent) of the respondents had a low level of extension contact and slightly more than one third (34.17 percent) of the respondents had a low level of mass media exposure.

(2) Symbolic adoption behavior of the trainee farmers about various practices of integrated weed management

Table 2: Distribution of the respondents according to their symbolic adoption level (n=120)

Sr. No	Particulars	Already Adopted	Not adopted	Symbolic adoption before Training				Symbolic adoption after Training			
				Willing to adopt	Percent	Don't want to adopt	Percent	Willing to adopt	Percent	Don't want to adopt	Percent
1	Use of weed free seed for sowing	113	07	04	57.14	03	42.86	07	100.00	0	0.00
2	Use of well decomposed farm yard manure	96	24	12	50.00	12	50.00	21	87.50	03	12.50
3	Do not feed weeds to the cattle	78	42	18	42.86	25	59.52	26	61.90	16	38.10
4	Keep the farm periphery weed free	105	15	06	40.00	09	60.00	08	53.33	07	46.67
5	Use of farm equipment/ tools after cleaning	104	16	06	37.50	10	62.50	12	75.00	04	25.00
6	Use Hand weeding practice for weed control	111	09	04	44.44	05	55.56	06	66.67	03	33.33
7	Use Inter culturing practice for weed control	108	12	06	50.00	06	50.00	10	83.33	02	16.67
8	Use of herbicides for weed control	93	27	13	48.15	14	51.85	23	85.19	04	14.81
9	Use Biological practices for weed control	10	110	13	11.82	97	88.18	33	30.00	77	70.00
10	Use Soil solarization / mulching practice for weed control	59	104	21	20.19	84	80.77	42	40.38	62	59.62
11	Do not perform Inter culturing up to 30 to 45 days of herbicide spray	79	61	17	27.87	44	72.13	53	86.89	08	13.11
12	Spraying of herbicide before the germination of seed for pre - emergence practice and after the germination of seed for post- emergence practice	79	41	17	41.46	24	58.54	35	85.37	06	14.63
13	Maintain Soil moisture for pre-emergence herbicide spraying	107	13	09	69.23	04	30.77	12	92.31	01	7.69
14	Spray herbicide by reverse walking method	100	20	12	60.00	08	40.00	19	95.00	01	5.00
15	Use of flatfan or flood jet Nozzle for herbicide spraying	73	47	22	46.81	25	53.19	43	91.49	04	8.51

From the table 2 it can be said that in case of Symbolic adoption in case of Use of weed free seed for sowing was found 57.14 before the training which was reached to 100 percent after the training, in case of use of well-decomposed farm yard manure was increased from 50 percent to 87.50 percent, not to feed weeds to the cattle was increased from 42.86 percent to 61.90 percent, Keep the farm periphery weed free increased from 40 percent to 53.33 percent, Use of farm equipment/ tools after cleaning was increased from 37.50 percent to 75 percent, Use Hand weeding practice for weed control was increased from 44.44 percent to 66.67 percent, Use Inter culturing practice for weed control was increased from 50 percent to 83.33 percent, Use of herbicides for weed control was increased from 48.15 percent to 85.19 percent, Use Biological practices for weed control was increased from 11.82 percent to 30 percent, Use Soil solarization/mulching practice for weed control was increased from 20.19 percent from 40.38 percent, Do not perform Inter culturing up to 30 to 45 days of herbicide spray was increased from 27.87 percent to 86.89 percent, Spraying of herbicide before the germination of seed for pre - emergence practice and after the germination of seed for post- emergence practice was increased from 41.46 percent to 85.37 percent, Maintain Soil moisture for pre-emergence herbicide spraying was increased from 69.23 percent to 92.31 percent, Spray herbicide by reverse walking method was increased from 60 percent to 95 percent and Use of flatfan or flood jet nozzle for herbicide spraying was increased from 46.81 percent to 91.49 percent.

Table 3 : Overall Symbolic adoption of trainee farmers regarding Integrated Weed Management level

(n = 120)

Sr. No.	Symbolic adoption index before training			Symbolic adoption index after training	
	Category	Frequency	Percent	Frequency	Percent
1	Very low (up to 20)	35	29.17	04	03.33
2	Low (21 to 40)	57	47.50	12	10.00
3	Medium (41 to 60)	17	14.17	35	29.17
4	High (61 to 80)	07	05.83	48	40.00
5	Very high (81 to 100)	04	03.33	21	17.50

From the table - 3 it can be said that before the training slightly less than half (47.50 percent) of the trainee had a low level of symbolic adoption, followed by very low, medium, high and very high level with 29.17 percent, 14.17 percent, 5.83 percent and 3.33 percent, respectively. Whereas, in case of after the training exactly two fifth (40 percent) of them had a high level of symbolic adoption, followed by medium, very high, low and very low level with 29.17 percent, 17.50 percent, 10 percent and 3.33 percent, respectively.

Table 4 : Impact of training in terms of gain in Symbolic adoption (n = 120)

Symbolic Adoption Index	Frequency	Mean Score	Change in symbolic adoption index	t- value
Before training	120	32.40	32.42	11.83*
After training	120	64.82		

The table - 4 showed that before training programme the mean score for symbolic adoption of the trainees with respect to different practices related to integrated weed management was 32.40 and it was reached to 64.82 after the training with a net gain of 32.42.

CONCLUSION

From the above results it can be concluded that slightly more than two-fifth of the respondents belonged to middle age group, followed by slightly more than two-fifth of the trainee respondents had higher secondary level of education, more than half of the trainee respondents belonged to general category, more than half of the trainee farmers had marginal size of land holding, slightly more than one third of the trainee farmers had annual income above ₹ 80,000, slightly less than half of the trainee farmers had no previous training participation, exactly two fifth of the trainee farmers were member in more than one organization, slightly less than one third of the respondents had a low level of extension contact and slightly more than one third of the respondents had a low level of mass media exposure.

In the case of overall symbolic adoption, before the training, a great majority (90.84 percent) of them had a very low to medium level of symbolic adoption. Moreover, before training programme, the mean score for symbolic adoption of the trainees with respect to different practices related to integrated weed management was 32.40 and it was reached to 64.82 after the training with a net gain of 32.42.

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