Constraints faced by the farmers in adoption of integrated weed management practice

■ P.B. GARDI, R.P. KADAM AND G.S. PAWAR

SUMMARY : The present study was conducted in Marathwada region of Maharashtra state. Present study was carried out in randomly selected Parbhani district. Four talukas were selected purposely from Parbhani district by considering highest area and production of the soybean crop namely, Purana, Palam, Parbhani and Gangakhed. Three villages from each taluka were selected randomly, thus 12 villages were selected for study. Ten respondents were selected randomly from each village who were cultivating soybean crop on his farm. Thus, the total 120 respondents were selected for the study. The soybean crop was selected for study because soybean crop is infested by number of weeds like shippi (*Echinochloa crus-galli*), kena (*Commelina benghalensis*), dudhi (*Euphorbia* spp.), hazardani (*Phyllanthus niruri*), nagarmotha (*Cyperus rotondus*), hariyali (*Cynodon dactylon*) etc. which cause loss to farmer up to 40 to 60 per cent in yield, weeds in soybean can be effectively controlled by using integrated weed management practices. Thus, the study was conducted for considering the problem of weed control in soybean crop. Ex-post facto research design was used for present study. The data were collected with the help of personal interview method with the help of interview schedule. A critical look of results, revealed that varying constraints faced by the farmers were economical constraints, technical constraints, resources constraints and other constraints.

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BACKGROUND AND OBJECTIVES

Soybean (*Glycine max* L.) is known as 'golden bean' in India and grown in India for dual purposes that is oil seed as well as pulse crop. Soybean is known as "poor man's meat" which is rich in unsaturated fatty acids with anti-cholesterol properties. The oil of soybean contains lycethin and vitamin 'A'. In addition to protein and oil, it also contains vitamin 'A' (710 IU), vitamin B (300 IU) and vitamin C, D, E and K, it contains small amount of Ca, Mg, P. Hundred grams of soybean provides 400-430 calories as against 350 calories from same quantity of cereals. The major soybean growing districts in Maharashtra are Buldhana, Latur, Amravati, Yavatmal, Parbhani, Washim, Nanded, Akola and Hingoli. In Maharashtra, Buldhana district ranks first in area (4.121 lakh ha) and third in production (2.576 lakh MT) while Latur ranks second in area (3.800 lakh ha) and first in

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production (3.363 lakh MT) during the year 2014-2015 (Source: *www.sopa.org.in*). In Marathwada region area under soybean in Parbhani district during the year 2014-2015 was (1.883 lakh ha) with the production of (1.601 lakh MT) and ranks fifth in area, production and productivity (Source: *www.sopa.org.in*). An analysis revealed that losses caused by weeds in India were to the tune of 24.38 million tons in cereals, 0.70 million tons in oilseeds, 0.98 million tons in pulses and 9.9 million tons in fibre and other commercial crops, valued at Rs. 5972 crores annually (Anonymous, 2014). Oilseeds and cereals crop are infested by number of weeds like shippi (*Echinochloa crus-galli*), kena (*Commelina benghalensis)*, dudhi (*Euphorbia* spp.), hazardani (*Phyllanthus niruri*), nagarmotha (*Cyperus rotondus*), hariyali (*Cynodon dactylon*) etc. which cause loss up to 40 to 60 per cent in yield. Weed in soybean can be effectively controlled by using herbicides like alachlor, basalin, pendimethylene.

Resources and Methods

The present study was conducted during 2015-16 year in Marathwada region of Maharashtra state. Present study were carried out in randomly selected Parbhani district. Four talukas were selected purposely from Parbhani district by considering highest area and production of the soybean crop namely Purana, Palam, Parbhani and Gangakhed. Three villages from each taluka were selected randomly, thus 12 villages were selected for study. Ten respondents were selected randomly from each village who were cultivating soybean crop on his farm. Thus, the total 120 respondents were selected for the study. The soybean crop was selected for study. The data were collected with the help of personal interview method with the help of interview schedule. Data were classified, tabulated and analyzed by using mean, frequency, percentage, standard deviation, co-efficient of correlation and multiple regressions.The present study was conducted with the following specific objective:

– To know the profile of the farmers.

– To know the constraints faced by the farmers in the adoption of integrated weed management practices.

– Suggestion invited from the farmer in the adoption of integrated weed management practices.

Observations and Analysis

The results obtained from the present study as well as discussions have been summarized under following heads:

To know the profile of the farmers :

It is revealed (Table 1), that 69.17 per cent of the respondents were from medium farming experience (22 to 34 years), followed by 16.66 per cent and 14.17 per cent of the respondent were from high and low farming experience, *i.e.* (35 year and above), and (up to 21 year), respectively. As far as education is concerned 45 per cent respondents were educated up to secondary (middle) school level, followed by 31.67 per cent were educated up to primary level, 12.5 per cent were educated up to high school, 8.33 per cent were educated up to graduate level and 1.67 per cent were able to read and write, remaining 0.83 per cent were able to read only.

It was observed 35.83 per cent had small size land holding (up to 2 ha) followed by 31.67 per cent respondents had semi medium (2.1 to 4 ha) land holding and 20.00 per cent had medium land holding (4 ha to 10) and 10 per cent of the respondents had marginal land holding and remaining 2.5 per cent were from big land holding (10 ha and above). Most of the farmers (89.17%) per cent of the respondents were engaged only in agriculture followed by 10.83 per cent respondents had agriculture + business and no one in agriculture + service as their occupation.Majority (78.34%) of the respondents were from medium income *i.e.* Rs. 77103 to 409000 group followed by 14.16 per cent and 7.5 per cent respondents were from high and low income *i.e.* Rs. 409001 and above and up to 77102 group, respectively. More than half (50.84%) of the respondents had medium social participation followed by 30.00 per cent high and 19.16 per cent respondents had low social participation.

Majority (62.50%) of the respondents used medium sources of information followed by 20.00 per cent and 17.5 per cent respondents used high and low sources of information, respectively. 59.17 per cent of the respondents had medium extension contact; followed by 26.67 per cent and 14.16 per cent respondents had low and high extension contact with extension agencies, respectively. More than half (59.17%) of the respondents had medium level of market orientation followed by 21.67 per cent and 19.16 per cent respondents had high and low level of market orientation, respectively. 61.67 per cent, of the respondents had medium level of risk orientation followed by 24.16 per cent and 14.17 per cent respondents had high and low level of risk orientation,

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respectively.

Constraints faced by the farmers in the adoption of integrated weed management practices:

Economical constraints :

It is clear from Table 2, that regarding economical constraints, 81.66 per cent of the respondents faced constraint like high labour charges followed by 80.83 per cent of the respondents faced high cost of agricultural input *viz.,* fertilizer and seed and 43.33 per cent of the respondents faced high cost of herbicides like constraint.

Technical constraints :

With respect to technical constraints of 95.83 per cent of the respondents reported lack of knowledge about biological weed management followed by 24.16 per cent of the respondents faced lack of knowledge about weedicide application and 23.33 per cent of the

Table 1 : Distribution of farmers according to their profile				(n=120)
Sr. No.	Profile of the farmers	Category	Respondents	
			Frequency	Percentage
1.	Farming experience	Low (upto 21years)	17	14.17
		Medium (22 to 34 years)	83	69.17
		High (above 35 years)	20	16.66
2.	Education	Illiterate	00	00
		Can read only	01	0.83
		Can read and write	02	1.67
		Primary (1th to 4th std.)	38	31.67
		Middle (5th to 7th std.)	54	45.00
		High School (8th to 10th std.)	15	12.50
		Graduate	10	8.33
3.	Land holding	Marginal farmers (upto 1.00)	12	10.00
		Small farmers (1.01 to 2.00)	43	35.83
		Semi-Medium farmers (2.01 to 4.00)	38	31.67
		Medium farmers (4.01 to 10.00)	24	20.00
		Big farmers (10.01 and above)	3	2.50
4.	Occupation	Only agriculture	107	89.17
		Agriculture + business	13	10.83
		Agriculture + service	0	00.00
5.	Annual income	Low (upto 77102)	09	7.50
		Medium (Rs. 77103 to 4090000)	94	78.34
		High (Rs. 409001 and above)	17	14.16
6.	Social participation	Low (upto 0)	23	19.16
		Medium (1 to 2)	61	50.84
		High (3 and above)	36	30.00
7.	Sources of information	Low (upto 18)	21	17.50
		Medium (19 to 33)	75	62.50
		High (34 and above)	24	20.00
8.	Extension contact	Low (Upto 10)	32	26.67
		Medium (11 to 23)	71	59.17
		High (24 and above)	17	14.16
9.	Market orientation	Low (Upto18)	23	19.16
		Medium (19 to 24)	71	59.17
		High (25 and above)	26	21.67
10.	Risk orientation	Low (upto 18)	17	14.17
		Medium (19 to 23)	74	61.67
		High (24 and above)	29	24.16

respondents faced lack of knowledge about integrated weed management practices.

Resources constraints :

Regarding resources constraints 56.66 per cent of the respondents reported shortage of labour and 45.84 per cent of the respondents reported unavailability of effective herbicide in market.

Other constraints :

In other constraints 82.50 per cent of the respondents faced unfavorable weather conditions for adoption of IWM practices. These findings are in conformity with the findings Asane (2003); Chopade (2000) and Dhakane (2003).

Suggestion invited from the farmers in the adoption of integrated weed management practices :

It is observed from Table 3, that 97.50 per cent respondents suggested that university should provide information about biological weed management practices and 94.16 per cent respondents suggested that government should provide seeds and fertilizers at proper time and in more quantity, whereas 88.33 per cent suggested that government should give proper prices to agricultural produce and equal of them suggested that university should provide information about improved weed management practices in different crops. Followed by 81.66 per cent respondents suggested that they should get loan at low interest, while 77.50 per cent respondents suggested that they should get loan at proper time, and

Table 2 : Distribution of the respondents according to constraints faced in IWM practices to adoption			(n= 120)
Sr. No.	Constraints	Respondents	
		No.	Percentage
	Economical constraints		
1.	High labour charges	98	81.66
2.	High cost of herbicide	52	43.33
3.	High cost of agri. inputs *viz.,* seed, fertilizer etc.	97	80.83
	Technical constraints		
1.	Lack of knowledge about weedicide application	29	24.16
2.	Lack of knowledge about biological weed management	115	95.83
3.	Lack of knowledge about integrated weed management practices	28	23.33
	Resources constraints		
1.	Shortage of skill full labour for spraying of herbicide	68	56.66
2.	Unavailability of herbicide in market.	55	45.84
	Other constraints		
1.	Unfavorable weather conditions	99	82.50

Table 3 : Distribution of the farmers according to suggestion invited by them in adoption of IWM practices			
Sr. No.	Suggestions	No.	Percentage
1.	Government should provide seeds and fertilizers at proper time and in adequate quantity.	113	94.16
2.	University should provide information about biological weed management practices.	117	97.50
3.	Government should give proper prices to agricultural produce.	106	88.33
4.	Farmers should get loan at low interest.	98	81.66
5.	Farmers should get loan at proper time	93	77.50
6.	Procedure for getting loan from bank should be easy.	92	76.66
7.	In villages load shedding hours should be reduced.	80	66.66
8.	University should provide information about improved weed management practices immediately after research.	70	58.33
9.	Government should provide subsidy for purchasing implements for management of mechanical weed control.	45	37.50
10.	Government should start various schemes for farmer's welfare.	35	29.17
11.	University should provide information about improved weed management practices in different crops immediately after research.	106	88.33

76.66 per cent suggested that procedure for getting loan from bank should be easy. Whereas 66.66 per cent suggested to reduce load shedding, and 58.33 per cent respondents suggested that university should provide information about improved weed management practices immediately after research whereas 37.50 per cent respondents suggested that government should provide subsidy for purchasing implements for mechanical weed management and 29.17 per cent suggested that government should start various schemes for farmers welfares. These findings are in conformity with the findings Asane (2003); Chopade (2000) and Dhakane (2003).

Conclusion:

It was observed that farmer mainly faced constraint like lack of high labour charges, shortage of labour, non-availability of timely information on weedicide use, cost of herbicide, chemical weed control is more complex, high cost of agricultural inputs *viz.,* seed and fertilizers, unfavourable weather condition, unavailability of credit facilities in market, lack of capital and use of weedicide is not so economical were the constraints faced by the farmers in adoption integrated weed management practices. Some of the suggestions were obtained from the majority of the respondents that, government should give proper price to agricultural produce, university should provide information about biological weed management practices, government should provide subsidy for purchasing implements for management of mechanical weed control. University should provide information about improved weed management practices in different crops immediately after research, in villages load shedding hours should be reduced.

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REFERENCES

Asane, P.G. (2003). Knowledge and adoption of cultivation practices recommended for soybean. M.Sc. (Agri.) Thesis, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Chopade, V.B. (2000). Knowledge and adoption of integrated weed management practices by the farmers. Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, M.S. (INDIA).

Dhakne, V.B. (2003). Knowledge and adoption of weed management technology by the farmers. M.Sc. (Ag.) Thesis, Marathwada Agricultural University, Parbhani, M.S. (INDIA).

■ **WEBLIOGRAPHY**

Anonymous (2014). *htpp:// www.faostat.com* accessed on 2nd May, 2015.

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