

Study of constraints faced by the farmers in adoption of bio-fertilizers

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ABSTRACT

The study was undertaken regarding the constraints faced by the farmers in adoption of bio-fertilizers in College Extension Block Nagpur. Randomly selected 150 respondents were surveyed. The study indicated non significant relationship with awareness and adoption levels of biofertilizers in respect of age. However, the selected variables *viz.* education, land holding, annual income, socio economic status, scientific orientation, extension contact and cosmopolitaness of the farmers showed significant relationship with the awareness and adoption of bio-fertilizers by the farmers. Major constraints expressed by the respondents in adoption of bio-fertilizer were non-availability of agricultural literature, lack of finance due to low income, lack of bio-fertilizer supply centres in the village and absence of timely guidance from Agricultural Department.

Key words : Constraints, Awareness, Adoption, Bio-fertilizers.

INTRODUCTION

In India, Agriculture sector contributes 23 per cent share to the national income but day by day still it is going on decreasing. Even though large hectares of area are under cultivation in this country, the yield per hectare for many crops is lower than expected level. This is because of lack of adoption of new, improved practices, advanced techniques, use of non-productive soils, decreasing soil conditions etc. It is possible to increase yield per unit area by adopting new production technologies *viz.*, use of bio-fertilizers, vermicompost, organic farming, bio-control remedies, genetically modified crops etc. In Agricultural production, chemical fertilizers play an important role *vis-a-vis* they are available in sufficient quantities. However, they are more costly and their excessive use may cause ill effects on soil, causing increased soil acidity/alkalinity and increased soil pollution with decreased soil productivity. Now maximum farmers in the world are aware about the dangerous effects of chemicals on human being. Hence, there is increasing demand for organic foods. Therefore, there is a need of certain supplements to the chemical fertilizers with organic manures. In this case, bio-fertilizers can play a significant role in improving soil condition and agricultural production. Hence, present study was undertaken with the objectives to study of the constraints faced by the farmers in adoption of bio-fertilizers and to study of the relationship between selected independent variables and dependent variables.

MATERIALS AND METHODS

The study was undertaken in Extension Block, College of Agriculture, Nagpur. The block consisted of 10 villages. The list of farmers of selected villages was prepared with the help of Gramsevak and Agricultural

Assistant of respective village. The farmers from each village were arranged alphabetically and random sample of 150 farmers were drawn by randomization. Thus, on the basis of random sampling, 15 farmers from each village were selected and personally interviewed with the help of specially designed interview schedule. The data were subjected to exploratory statistical analysis.

RESULTS AND DISCUSSION

A study pertaining to constraints faced by the farmers in the utilization of bio-fertilizers and its correlation with selected dependent variables and different independent variables was conducted using 150 farmers from College Extension Block, College of Agriculture, Nagpur. The results obtained are presented in Tables 1 and 2.

The results presented in Table 1 showed non significant relationship with awareness and adoption levels of biofertilizers in respect of age. Borude (1998) reported non-significant relationship between age of the respondents and their fertilizer utilization pattern. The selected variables *viz.*, education, land holding, annual income, socio-economic status, scientific orientation, extension contact and cosmopolitaness of the farmers, showed significant relationship with the awareness and adoption of bio-fertilizers by the farmers.

Data presented in Table 2, revealed that 64.66 per cent respondents from the information constraints faced a major constraints of non-availability of agricultural literature followed by 56.66 and 43.33 per cent of absence of timely guidance by agricultural department and no guidance by Agricultural Supervisor, respectively. Jain and Bhattacharya (2000) also concluded that lack of relevant literature (60.00%) was the constraint in non-adoption of bio-fertilizers. Among the financial constraints, 63.33, 48.66 and 50.00 per cent respondents faced major

Table 1 : Correlation between personal and socioeconomic characteristics of the farmers with awareness and adoption level of bio-fertilizers

Independent variables	Dependent variables	
	Awareness	Adoption
Socio economic variables		
a. Age	0.073 NS	0.0007 NS
b. Education	0.615**	0.629**
c. Land holding	0.218**	0.258**
d. Annual income	0.308**	0.403**
e. Socio economic status	0.564**	0.586**
Psychological variable		
a. Scientific orientation	0.594**	0.593**
Communication variables		
a. Cosmopolitness	0.566**	0.609**
b. Extension contact	0.545**	0.556**

* and ** indicates significance of values at P=0.05 and 0.01, respectively
NS-Non-significant

Table 2: Distribution of the respondents according to constraints encountered by them in adoption of bio-fertilizers

Constraints	Frequency (150)	Percent age
Social Constraints		
1. Unawareness about bio-fertilizers impact	60	40.00
2. Lack of confidence on bio- fertilizer input	32	21.33
Financial Constraints		
1. Lack of finance due to low income	95	63.33
2. Non availability of subsidy	73	48.66
3. Non availability of credit	75	50.00
Situational Constraints		
1. Lack of bio-fertilizers supply centre in village	91	60.66
2. Non availability of bio-fertilizers at proper time	86	57.33
Technological Constraints		
1. Lack of knowledge about bio-fertilizers	57	38.00
2. Lack of practical training	63	42.00
Informational Constraints		
1. Non availability of agricultural literature in village	97	64.66
2. No timely guidance by agricultural department	82	56.66
3. No guidance by agricultural. Supervisor and Gramsevak	68	43.33

Note: Total percentage is more than hundred due to multiple responses

constraints of lack of finance, non-availability of subsidy and non-availability of credit, respectively.

In situational constraints, 60.66 and 57.33 per cent respondents faced major constraints of lack of bio-fertilizer

supply centres and non-availability of bio-fertilizers at appropriate time, respectively. In another study, majority of the farmers (75.00%) expressed non-availability of input in time which was the most important problem in adoption of new agricultural technology (Deshmukh, 1994). However, Zade(1998) reported that lack of knowledge about seed inoculation of soybean with *Rhizobium* culture and its availability were the constraints for 26.66 and 38.66 per cent of the respondents, respectively.

In technological constraints, 42.00 and 38.00 per cent respondents faced major constraints of lack of practical training and lack of knowledge about use of bio-fertilizers, respectively. Jain and Bhattacharya (2000) concluded that lack of practical oriented training 64.00 per cent and Zade(1998) observed that lack of knowledge about use of bio-fertilizers 43.33% were the major constraints faced by the farmers.

In respect of the social constraints, 40.00 and 21.33 per cent respondents faced major constraints of unawareness about bio-fertilizer impact and lack of confidence on bio-fertilizer input, respectively. Most similar results were reported by Chote and Borker (2000) and Jain *et al.* (2000) regarding non-awareness about bio-fertilizer product and lack of confidence of bio-fertilizer input.

Conclusion:

The present study indicated non significant relationship with awareness and adoption levels of biofertilizers in respect of age. However, the selected variables *viz.*, education, land holding, annual income, socio-economic status, scientific orientation, extension contact and cosmopoliteness of the farmers showed significant relationship with the awareness and adoption of bio-fertilizers by the farmers. Major constraints expressed by the respondents in adoption of bio-fertilizer were non-availability of agricultural literature, lack of finance due to low income, lack of bio-fertilizer supply centres in the village and absence of timely guidance from Agricultural Department.

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