CONSTRAINTS FACED BY BIOFERTILIZER USERS

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ABSTRACT

The constant and sustained efforts of the microbiologists and biotechnologists for isolating and standardizing the activities of microorganisms have helped to increase the production of bio fertilizers. The bio fertilizers are carrier based provision containing effective strains of microorganisms like bacteria, algae, fungi alone or in combination with sufficient number which can provide plant nutrients through microbial activity. Bio fertilizers are environment friendly, less costly and non-bulky. With this background, the study entitled "Extent of knowledge and adoption of biofertilizers use by the biofertilizer users of Navsari district" was undertaken with the following objectives:To study the profile of the biofertilizer users, to ascertain the knowledge level of biofertilizer users towards the use of biofertilizers, to study the adoption pattern of bio fertilizers by biofertilizer users, to measure the relationship between profiles with level of Knowledge and adoption towards the use of biofertilizer and to identify the constraints faced and obtain suggestions by the biofertilizer users in adoption of biofertilizers. Results indicated that majority of the farmers was in the middle age group (36-50 years),most of the farmers had education up to high school level, majority of farmers had 2 to 5 acre of land holding, majority of farmers belonged to more than Rs. 1,00,000 annual incomes, majority of farmers had low level of social participation, majority of farmers had medium extension contact, majority of the farmers had low level of scientific orientation, majority of farmers belonged to medium mass media exposure, majority of farmers belonged to medium level of knowledge about use of biofertilizer, majority of farmers belonged to medium level of adoption of biofertilizer. Majority of the respondents expressed that lack of technical skill to use biofertilizers and occupied rank first, Non availability of biofertilizer locally at times when needed ranked second, Inability to understand the details of biofertilizers ranked third, No guidance by agricultural Supervisor and Gramsevak ranked fourth, Non-availability of extension literature on biofertilizer usage ranked fifth, Lack of finance ranked sixth, Lack of knowledge about practices ranked seventh, Improper soil condition ranked eighth and Low shelf life of biofertilizer ranked ninth. Majority of the respondents expressed that bio fertilizer usage can be increased if they are provided free of cost was the major suggestion offered by the farmers to adopt bio -fertilizer technology. The other suggestions were printed literature in simple local language can be distributed by the Dept. of Agriculture and the University or the NGOs like Krishi Vigyan Kendra, awareness campaign on popularization of biofertilizers like krishi mela , availability of bio fertilizers in villages , subsidy for bio fertilizers.

Keywords: *constructions, suggestion, biofertilizer users*

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 biofertilizers, vermicompost, organic farming, bio-control remedies, genetically modified crops etc in golden era of organic farming. In Agricultural production, chemical fertilizers play an important role *visa-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. Now a days Biofertilizers are available in ample with all SAUs in Gujarat. Especially ,NAU is producing huge mass of Biofertilizers.

OBJECTIVES

(1) To know the constraints faced by biofertilizer users

(2) To know the suggestions offerd by biofertilizer users for adoption of biofertilizer

METHODOLOGY

An ex-post-facto research design was used in the present investigation. The study was conducted during April-June 2016 in Navsari district of Gujarat state. The main focus of the investigation is on extent of knowledge and adoption of biofertilizers use by the biofertilizer users of Navsari district. The District comprises of six Talukas, among which Gandevi, Chikhali and Khergam Talukas were randomly selected for the study. Three talukas were selected for the study and from each taluka two village were selected. In each of the selected villages farmers were selected according to random sampling to form 60 respondents as a sample size for the study. Eight variables were measured, in that size of land holding, annual income and social participation, scientific orientation and mass media exposure is measured by scale developed by eminent scientists. In order to measure knowledge and extent of adoption of biofertilizer use a structured schedule was developed by reviewing related literature and seeking expert's suggestions. The data were collected by personal interview method. Statistical tools viz. frequency, percentage, ranking and correlation, were used to analyze the data.

RESULTS AND DISCUSSION

Personal profile of the respondents

Personal profile of the respondents indicated that majority of the farmers were in the middle age group (36-50 years).Most of the farmers had education up to high school level. Majority of farmers had 2 to 5 acre of land holding. Majority of farmers belonged to more than Rs. 1,00,000 annual income. Majority of farmers had low level of social participation. Majority of farmers had medium extension contact. Majority of the farmers had low level of scientific orientation. Majority of farmers belonged to medium mass media exposure. The same was also reported by Pandya (2010) and Patel *et al* (2014).

Knowledge level of the respondents

Knowledge level of farmers about the use of biofertilizers.

Table 1: Distribution of the respondents according to their level of overall knowledge of farmers about biofertilizers n=60

Sr. No.	Category	Frequency	Percent
1	Low knowledge	06	10.00
2	Medium knowledge	41	68.33
3	High knowledge	13	21.67

Mean =8.20 SD=1.60

From the above table No.1 it is evident that majority of farmers (68.33 per cent) belonged to medium level of knowledge, followed by low (21.67 per cent) and high (10.00 per cent).The above findings are in line with the findings of Mokhale *et al.* (2010) with respect to majority of farmers having medium level of knowledge. Majority of farmers belonged to medium level of knowledge about use of biofertilizer. Reddy et al (2012) also reported the same.

Adoption level of biofertilizer by the farmers

Table 2: Distribution of the respondents according to their level of overall adoption of biofertilizers by farmers n=60

Sr. No.	Category	Frequency	Percent
1	Low knowledge	15	25.00
2	Medium knowledge	29	48.33
3	High knowledge	16	26.67

Mean =5.05 SD=0.79

From the above table No.2 it is evident that majority of farmers (48.33 per cent) belonged to medium level of adoption, followed by high (26.67 per cent) and low (28.00 per cent).The above findings are in line with the findings of Shashidhara. K. K (2012) with respect to majority of farmers belongs to medium level of adoption. Majority of farmers belonged to medium level of adoption of biofertilizer. Reddy et al (2012) and Mokhale, *et al* (2010) also reported the same.

Constraints encountered in the adoption of biofertilizer practices by the farmers

Table 3 : Constraints encountered in the adoption of biofertilizer practices by the farmers n=60

Sr. No.	Constraints	Frequency	Percent	Rank
1	No guidance by agricultural Supervisor and Gramsevak	39	65.00	IV
2	Inability to understand the details of biofertilizers	41	68.33	III
3	lack of technical skill to use biofertilizers	48	80.00	I
3	Lack of finance	36	60.00	VI
4	Non availability of biofertilizer locally at times when needed	47	78.33	II
5	Lack of knowledge about practices	34	56.67	VII
6	Non-availability of extension literature on biofertilizer usage	38	63.33	V
7	Improper soil condition	30	50.00	VIII
8	Low shelf life of biofertilizer	27	45.00	IX

It is revealed by the respondents in Table-3 that majority of the respondents expressed that lack of technical skill to use biofertilizers (80.00 per cent) and occupied rank first, Non availability of biofertilizer locally at times when needed (78.33 per cent) ranked second, Inability to understand the details of biofertilizers (68.33 per cent) ranked third, No guidance by agricultural Supervisor and Gramsevak (65.00 per cent) ranked fourth, Non-availability of extension literature on biofertilizer usage (63.33 per cent) ranked fifth, Lack of finance (60.00 per cent) ranked sixth, Lack of knowledge about practices (56.67 per cent) ranked seventh, Improper soil condition (50.00 per cent) ranked eighth and Low shelf life of biofertilizer (45.00 per cent) ranked ninth. Jangid (2012) and Srinivas and Bhalekar, (2013) and Slathia *et al*. (2013) also reported the same. Low shelf life and non-availability of specific strains of biofertilizer, no guidance by agricultural Supervisor and Gramsevak and inability to understand the details were also expressed as constraints by some farmers.

Suggestions by the farmers for adoption of bio fertilizer

Table 4 : Suggestions by the farmers for adoption of bio fertilizer n=60

Sr. No	Suggestions	Frequency	Percent	Rank
1	Bio fertilizers usage can be increased if they are provided free of cost	49	81.67	I
2	Availability of bio fertilizers in villages	34	56.67	IV
3	Subsidy on bio fertilizers	32	53.33	V
4	Awareness campaign on popularization of biofertilizers like krishi mela	35	58.33	III
5	Printed literature in simple local language can be distributed by the Dept. of Agriculture and the University or the NGOs like Krishi Vigyan Kendra	47	78.33	II

Suggestions offered by the farmers in adoption of bio fertilizer were analyzed and presented in Table-4. Majority of the respondents expressed that bio fertilizer usage can be increased if they are provided free of cost was the major suggestion offered by the farmers to adopt bio fertilizer technology. The other suggestions were printed literature in simple local language can be distributed by the Dept. of Agriculture and the University or the NGOs like Krishi Vigyan Kendra(78.33 per cent), awareness campaign on popularization of biofertilizers like krishi mela (58.33 per cent), availability of bio fertilizers in villages (56.67per cent), subsidy for bio fertilizers (53.33 per cent). Bodake *et al* (2012) and Damor, (2013) also reported the same.On above findings this can be conclude like training for the farmers on bio fertilizers usage should be give more and also awareness programmes can be conducted.

CONLUSION

From the above study it can be concluded that majority of biofertilizer users belong to 36 to 50 years, having education primary to graduate, medium land holding, high annual income, low level of membership, medium extension contact, low scientific orientation, medium mass media exposure. Majority of farmers had medium knowledge level. Majority of farmers had medium adoption level. The variable age is negative but significant relationship with the level of knowledge about the use of biofertilizer, education is positive and highly significant and other variables *viz.*, land holding, annual income, social participation, extension contact, scientific orientation and mass media exposure are positive and significant. The variable age is negative but significant relationship with the level of adoption of biofertilizer, education and extension contact are the positive and highly significant and other variables *viz.* land holding, annual income, social participation and mass media exposure is positive and significant relationship with the level of overall adoption of the biofertilizer. Scientific orientation is negative and non-significant. Majority of the respondents expressed that lack of technical skill to use biofertilizers and occupied rank first, Non availability of biofertilizer locally at times when needed ranked second, Inability to understand the details of biofertilizers ranked third, No guidance by agricultural Supervisor and Gramsevak ranked fourth, Non-availability of extension literature on biofertilizer usage ranked fifth, Lack of finance ranked sixth, Lack of knowledge about practices ranked seventh, Improper soil condition ranked eighth and Low shelf life of biofertilizer ranked ninth. Majority of the respondents expressed that bio fertilizer usage can be increased if they are provided free of cost was the major suggestion offered by the farmers to adopt bio -fertilizer technology. The other suggestions were printed literature in simple local language can be distributed by the Dept. of Agriculture and the University or the NGOs like Krishi Vigyan Kendra, awareness campaign on popularization of biofertilizers like krishi mela , availability of bio fertilizers in villages , subsidy for bio fertilizers.

REFERENCES

Bodake, H. D., Gaikwad, S. P. and Shirke, V. S. (2012). Study of constraints faced by the farmers in adoption of bio-fertilizers. *International journal of Agricultural Sciences*, **5**(1): 292-294.

Damor, K. C. (2013). Attitude of farmers towards organic farming. M.Sc. (Agri.) Thesis (unpublished), Anand Agricultural University, Anand.

Jangid M. K.,(2012). Constraints Faced by the Organic and Conventional Farmers in Adoption of Organic Farming Practices, *Indian Research Journal of Extension Education,* II

Mokhale, S. U.,Deshmukh, A. N., Holi, S. S. and Shambarkar, Y. B. (2010). Technological knowledge of farmers about the use of biofertilizer. *Agriculture Update.* **5**(3&4): 277-278

Pandya, C. D. (2010). A critical analysis of soico-economic status of organic farming followers of south Gujarat. Ph.D. (Agri.). Thesis (Unpublished), Navsari Agricultural University, Navsari

Patel, B. D. (2005). A study on adoption of recommended chili technology in Vadodara district of Gujarat state. M.Sc. (Agri.) Thesis (unpublished) submitted to A.A.U., Anand

Patel, J. K.; Patel, V. T.; Prajapati, M. R. and Thakka, K. A. (2014). Awareness regarding organic farming among the farmers of Sabarkantha and Banaskantha district. *Guj. J. Extn. Edu.* 25: 152-154

Reddy, S. P., Srinath, B., Kishore, S., Naidu, B. V. and Satyanarayana, R. (2012). Knowledge and adoption levels on organic farming in mulberry cultivation with the farmers in Chittoor district of Andhra Pradesh. *Crop Res.* 43 (1, 2 & 3): 284-288

Shashidhara. K. K. (2012), Adoption of Eco-Friendly Technologies by Cotton Growers. *Indian Research Journal of Extension Education*, I: 217

Slathia, P. S.; Kumar, P.; Paul, N. and Ali, L. (2013). Problems faced by organic farmers in hilly areas of Udampur district in Jammu Region. *Indian Res. J. Extn. Edu. & R.D.* 21:55-59

Srinivas, A. and Bhalekar, D. N. (2013). Constraints Faced by Farmers in Adoption of Biofertilizers. *International Journal of Scientific Research.* 4(2)

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