

Original Research Article

KNOWLEDGE LEVEL OF FARMERS TOWARDS USE OF PRIVATE BIO-FERTILIZERS

ABSTRACT

Bio-fertilizers are ready-to-use live formulations of beneficial microorganisms that on application to seed, root or soil mobilize and augment the availability of nutrients through their biological activity in particular, and help build up microflora and soil health in general. The study was conducted in the Navsari district of South Gujarat using Ex-post facto research design. A total of 120 respondents were selected randomly. ~~Private Bio-fertilizers~~ in this study are referred to as the bio-fertilizers that are manufactured by private manufacturers. This study ~~was~~ concluded that little less than half of respondents had moderate knowledge about use of private bio-fertilizers. The relationship between profile of the respondents and their knowledge level towards use of private bio-fertilizers revealed that Education, occupation, mass media exposure, scientific orientation were found positively and highly significantly associated at 1 per cent level of probability whereas, land holding, extension contact, social participation, risk orientation, economic motivation, and management orientation ~~are~~ were positively and significantly associated at 5 percent level of probability, while age, gender, family size, farming experience, annual income and family type had non-significant association with knowledge about use of private bio-fertilizers.

Key words: Knowledge, bio-fertilizers, respondents, profile, Ex-post facto.

INTRODUCTION

After the Green ~~Revolution~~ revolution, India became the world's largest user of chemical fertilizers, consuming each year around 16 per cent of the world's nitrogen consumption, 19 per cent of phosphatic and 15 per cent of potassic nutrients of the global total. Total fertilizer consumption in the country was 28.30 million tons up to 2010-11. The emphasis on chemical fertilizers, which sometimes led to injudicious application, has meant that the soil be regarded as an inert substrate for plant roots, instead of a living biosphere, the rhizosphere containing a myriad of organisms. It is now realized that in agricultural lands productivity slowly declines and environmental quality starts to deteriorate (Patel *et al.* 2019).

Bio-fertilizers are ready-to-use live formulations of beneficial microorganisms that on application to seed, root or soil mobilize and augment the availability of nutrients through their biological activity in particular, and help build up microflora and soil health in general. They provide nutrients by working symbiotically with plant roots or through solubilization or mobilization of nutrients from soil or atmosphere. There are many identified beneficial microorganisms, of which a few are commercially exploited as bio-fertilizers. Bio-fertilizers are regulated through the Fertilizer (Inorganic, Organic or Mixed) (Control) Order (FCO) of 1985, under the Union Ministry of Agriculture and Farmers' Welfare, which was notified under the Essential Commodities Act of 1955 in 2006 (Amit & Vineet 2022).

The usage ~~Usage~~ of Eco-friendly bio-fertilizers is the need of the hour. Based on the results obtained extension strategies can be developed to increase ~~farmers'~~ farmers' knowledge and awareness towards private bio-fertilizers, Knowledge in this study is referred to as the body of understood information possessed by the respondent about private bio-fertilizers and ~~Private~~ bio- fertilizers are the bio-fertilizers manufactured by private manufacturers. Keeping these things in

view the present study was conducted to assess the knowledge level of farmers towards private bio-fertilizers.

OBJECTIVE

1. To study the knowledge level of the respondents towards [the](#) use of private bio-fertilizers
2. To analyze the relationship between [the](#) profile of respondents with their knowledge level towards [the](#) use of private bio-fertilizers

METHODOLOGY

The study was conducted in Navsari district of South Gujarat during the year 2019-20. It has 6 talukas viz., Navsari, Gandevi, Chikhli, Khergam, Vandsa and Jalalpore. All the talukas were covered under [the](#) study. Two villages were selected from each taluka, total 12 [of](#) villages. [A bifurcated](#)~~Bifurcated~~ list was used to identify the respondents and a simple random sampling method was followed for selection of the respondents. Ten respondents were selected randomly from each village. Thus, total [of](#) 120 respondents were studied and [Data data](#) was collected through [a](#) pre-structured interview schedule. Thereafter, data were [analyzed](#) and results were interpreted.

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RESULTS AND DISCUSSION

Knowledge level of respondents towards [the](#) use of private bio-fertilizers

[The knowledge](#)~~Knowledge~~ referred [to](#) as the body of understood information possessed by the respondent about private bio-fertilizers. It is the cognitive behaviour of an individual. The body of knowledge is the product of [the](#) learning process. The data regarding [the](#) knowledge of respondents about [the](#) use of private bio-fertilizers were analyzed, tabulated and presented in the following sequence according [to](#) level of knowledge. The findings were presented in table 1.

Table 1: Distribution of respondents according to knowledge n=120

Sr. No.	Level of knowledge	Respondents	
		Frequency	Percentage
1	Low level of knowledge	28	23.30
2	Moderate level of knowledge	57	47.50
3	Higher level of knowledge	35	29.20
Total		120	100.00

The data of table 1 revealed that 47.50 per cent of the respondents had [a](#) moderate level of knowledge followed by 29.20 and 23.30 per cent of them had higher and lower knowledge levels about [the](#) use of private bio-fertilizers respectively.

In general majority of the respondents (76.70 %) had moderate to higher knowledge about use of private bio-fertilizers. Since most of the respondents had moderate mass media exposure which carry [the](#) information about new agricultural technology. Besides, their moderate extension

contact with locally available extension workers is also instrumental in acquiring a medium to high level of knowledge.

The finding is partly in line with the findings of Mokhale *et al* (2010)

Relationship between the profiles of respondents with their knowledge level towards the use of private bio-fertilizers

The relationship between the profile of the respondents and their knowledge level towards the use of private bio-fertilizers were calculated with the help of a correlation co-efficient (r). The findings are presented in table 2.

The data presented in table 2 revealed that education (0.252**), occupation (0.290**), mass media exposure (0.238**), scientific orientation (0.296**), ~~were~~ were found positively and highly significantly associated at 1 per cent level of probability whereas, landholding (0.182*), extension contact (0.189*), social participation (0.201*), risk orientation (0.198*), economic motivation (0.225*), management orientation (0.230*) ~~are~~ were positively and significantly associated at 5 percent level of probability. While age (0.098 NS), gender (0.118 NS), family size (0.156 NS), farming experience (0.096 NS), annual income (0.131 NS) and family type (-0.098 NS) were non-significantly associated with knowledge about the use of private bio-fertilizers.

Table 2: Relationship between the profile of respondents and their level of knowledge about the use of private bio-fertilizers (n=120)

Sr. No.	Independent variables	Correlation coefficient (r)
1.	Age	0.098 ^N
2.	Education	0.252*
3.	Gender	0.118 ^N
4.	Family type	-
5.	Family size	0.156
6.	Occupation	0.290*
7.	Land holding	0.182*
8.	Farming experience	0.096 ^{NS}
9.	Annual income	0.131 ^{NS}

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10.	Mass media exposure	0.238*
11.	Extension contact	0.189*
12.	Social participation	0.201*
13.	Scientific orientation	0.296*
14.	Risk orientation	0.198*
15.	Economic motivation	0.225*
16.	Management orientation	0.230*

NS non-significant * Significant at 0.05 level ** Significant at 0.01 level

CONCLUSION

It can be concluded that little less than half of respondents had moderate knowledge about use of private bio-fertilizers. Education, occupation, mass media exposure, scientific orientation were found positively and highly significantly associated at 1 percent level of probability whereas, land holding, extension contact, social participation, risk orientation, economic motivation, and management orientation are positively and significantly associated at 5 per cent level of probability, while age, gender, family size, farming experience, annual income and family type had non-significant association with knowledge about the use of private bio-fertilizers. To increase the knowledge level of farmers towards private bio-fertilizers, it is suggested to organize specific extension programmes on private bio-fertilizers, which further increases the usage of private bio-fertilizers.

RECOMMENDATION/POLICY IMPLICATION

A targeted, ambitious and well-funded nation-wide programme must be developed to drive the change towards use of bio-fertilizers. This may bring increase the usage of private bio-fertilizers. There are several aspects for achievement of success in the domain of bio-fertilizers. Timely availability of quality bio-fertilizers at an affordable price is the most crucial factor in this transition.

Such investigations ought to be repeated after the regular intervals in other geographical areas of Gujarat in order to fortify the results.

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