

## Knowledge and Attitude of Farmers Regarding Biofertilizers

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### ABSTRACT

*Biofertilizers are defined as preparations containing living cells or latent cells of efficient strains of microorganisms that help crop plants' uptake of nutrients by their interactions in the rhizosphere when applied through seed or soil. They accelerate certain microbial processes in the soil which augment the extent of availability of nutrients in a form easily assimilated by plants. In arid and semi arid area where the moisture is limiting factor there is no chance or sometime less chances of giving top dressing of fertilizers. In such situation biofertilizers are the cheap source to maintain fertility as well as soil moisture. Keeping this in view, present study was conducted in to measure the knowledge level and to know the attitude of farmers regarding biofertilizers. The study was conducted in Tharad, Vav and Bhabhar talukas of Banaskantha district of Gujarat state with 120 farmers from twelve villages having more area under arid and semi arid condition. The structured and pre tested interview schedule was prepared for the collection of information about knowledge level and attitude of farmers regarding biofertilizers. More than half (59.17%) of the farmers had medium level of knowledge regarding biofertilizers. While majority (79.17%) of the farmers possessed moderately to less favourable attitude regarding biofertilizers.*

**Keywords:** Knowledge level, Attitude, Farmers of arid and semi arid area

### INTRODUCTION

In order to meet the food needs of the alarmingly growing population, “green revolution” came as an answer. Green revolution in India has witnessed a jump in agricultural production with the introduction of high yielding varieties (HYVs) of various crops and by following intensive cultivation practices with the use of fertilizers, pesticides and other inputs. The cropping intensity has also increased during green revolution period wherever water is available a second crop was introduced. Consumption of chemical fertilizers increased tremendously over the years. Nitrogen, phosphorus and potassium are the primary fertilizer nutrients which were widely used. Other trace elements are used in specific crops otherwise most of the farmers are not using the micro nutrients.

Economic status of the people in country like India mostly depends upon the agricultural production. Need for more intensive and economic agricultural production led to indiscriminate use of high doses of chemical fertilizers, pesticides etc, Relentless use of these chemicals not only alter

the eco-system but also claim death to many lives every year due to their hazardous nature.

Biofertilizers are used to improve the fertility of the land by using biological wastes and biological wastes do not contain any chemicals which are harmful to the living soil. Biofertilizers generate plant nutrients like nitrogen and phosphorus through their activities in the soil and make available to plants in gradual manner. They are beneficial in enriching the soil with microorganisms which increases quality of nutrient in soil and also impart strength to combat with diseases.

In arid and semi arid area where the moisture is limiting factor there is no chance or sometime less chances of giving top dressing of fertilizers. In such situation biofertilizers are the cheap source to maintain fertility as well as soil moisture. In semi-arid regions of tropical and subtropical countries, the soils are nutritionally deficient and due to moisture limitation, chemical fertilizers cannot be applied in adequate quantities.

**METHODOLOGY**

As biofertilizers are important to improve the fertility of the land in dry farming area. Hence it is felt necessary to study the attitude and knowledge level of the farmers. Ex post-facto research design was used for the study. The biofertilizers being a new concept, limited numbers of farmers know and use biofertilizers and hence, multistage random sampling was used to draw a sample. The study was conducted in Banaskantha district, Banaskantha district was selected for the study purposively because of more area of the district fall under arid and semi arid situation with dry farming practices.

Among the twelve talukas of Banaskantha district, Tharad, Vav and Bhabhar talukas were selected purposively for the study since more area of these talukas are falling under arid and semi arid condition with dry farming practices. A list of the villages of each talukas was obtained from the office of respective taluka panchayats. From the list, four villages from each taluka were selected randomly. Thus 12 villages from three talukas were selected for the study. The final sample thus drawn was consisted of 120 farmers from twelve villages of three talukas of Banaskantha district of Gujarat state. To measure the knowledge of the respondents about biofertilizers, an objective test was developed using conference method. Objective type questions were framed in order to have precise response. A score of one was assigned to correct answer and zero to incorrect answer. The score on each item was then added to arrive at total knowledge score. The knowledge index was then calculated for each respondent with the help of the formula given below.

$$K_i = \frac{X_1 + X_2 + \dots + X_n}{N} \times 100$$

Where,

- $K_i$  = Knowledge index
- $X_1 + X_2 + \dots + X_n$  = Total number of correct answers
- $N$  = Total number of items in the test

The farmers were grouped into three levels of knowledge on the basis of their knowledge index viz., low, medium and high on the basis of pooled mean ( $\bar{x}$ ) and standard deviation. The attitude regarding biofertilizers was also measured with the help of teacher made scale developed for the study.

The data were collected with the help of structural and pre-tested interview schedule. The collected data

were than analysis, tabulated and interpreted in the light of objectives for arriving at meaningful interpretation and findings.

**RESULTS AND DISCUSSION**

**Knowledge level of the respondents regarding biofertilizers**

**Table 1: Distribution of the respondents according to their knowledge level regarding biofertilizers**

n=120

Sr. No.	Category	No.	Per cent
1	Low (Below 33.01 index)	49	40.83
2	Medium (33.01 to 66.01 index)	71	59.17
3	High (Above 66.01 index)	00	00.00

Mean = 34.09

S.D. = 10.67

It is observed from the Table 1 that nearly two fifth (59.17%) of the farmers had medium level of knowledge regarding biofertilizers, remaining 40.83 per cent of farmers had low level of knowledge. It is sad to mention that none of them had high level of knowledge. Thus, it can be concluded that all most all farmers had medium to low level of knowledge regarding biofertilizers and not a single farmers possessed high level of knowledge regarding biofertilizers.

The probable reason might be due to fact that majority of the farmers had educated up to secondary level of education.

**Attitude of the respondents regarding biofertilizers**

**Table 2 : Distribution of the respondents according to their level of attitude regarding biofertilizers.**

n = 120

Sr. No.	Attitude	No.	Per cent
1	Less favourable (Below 40.50 score)	26	21.67
2	Moderately favourable (40.50 to 58.22 score)	69	57.50
3	Highly favourable (Above 58.22 score)	25	20.83

Mean = 49.25

S.D. = 8.96

The data presented in Table 2 indicate that majority

(57.50%) of the farmers had moderately favourable attitude, followed by 21.67 percent and 20.83 per cent had less favourable and highly favourable attitude towards biofertilizers respectively.

This might be due to reason that farmers might have perceived many problems viz., low knowledge about biofertilizers, no visual difference in the crop growth immediately, no availability of good quality biofertilizers and poor shelf life of biofertilizers etc.

### Constraints perceived by the respondents in use of biofertilizers

**Table 3: Distribution of respondents according to constraints perceived by them in use of biofertilizers**  
n = 120

Sr. No.	Constraints	No.	Per cent	Rank
1	Lack of technical knowledge about biofertilizers.	86	71.66	I
2	Lack of technical skill to use biofertilizers.	73	60.83	II
3	Non availability of good quality biofertilizers.	68	56.66	III
4	Non availability of biofertilizers from all dealers.	65	54.16	IV
5	Negative attitude of neighbouring farmers.	62	51.66	V
6	No visual difference in the crop growth immediately as that of chemical fertilizers.	59	49.16	VI
7	Lack of guidance from extension personal	56	46.66	VII
8	Poor shelf life of bio fertilizers.	54	45.00	VIII
9	Lack of storage facility for biofertilizers.	45	37.50	IX
10	Lack of awareness about the benefits of biofertilizers.	36	30.00	X

A perusal from the Table 3 revealed that major constraints perceived by more than half of the farmer were; lack of technical knowledge about biofertilizers (71.66%), lack of technical skill to use biofertilizers (60.83%), non-availability of good quality biofertilizers (56.66%), non-availability of biofertilizers from all dealers (54.16%) and negative attitude of neighbouring farmers (51.66%) were ranked first, second, third, fourth and fifth respectively. Other constraints reported were; no visual difference in the crop growth immediately as that of chemical fertilizers (49.16%),

lack of guidance form extension personal (46.66%) and poor shelf life of biofertilizers (45.00%) were ranked sixth, seventh and eighth respectively, while lack of storage facility for biofertilizers (37.50%) and lack of awareness about the benefits of biofertilizers (28.34%) were ranked ninth and tenth respectively.

### CONCLUSION

From the above overall discussion, it can be concluded that among all the farmers more than half (59.17%) of the farmers had medium level of knowledge regarding biofertilizers. While majority (79.17%) of the farmers possessed moderately to less favourable attitude regarding biofertilizers. In case of constraints major constraints perceived by farmers were; lack of technical knowledge about biofertilizers (71.66%), lack of technical skill to use biofertilizers (60.83%), non-availability of good quality biofertilizers (56.66%), non-availability of biofertilizers from all dealers (54.16%) and negative attitude of neighbouring farmers (51.66%)

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