

Knowledge Level of Farmers on Utilization of Biofertilizers in Annamayya District of Andhra Pradesh

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ABSTRACT

Indian agriculture has changed since the green revolution era. The major thrust of the green revolution is to ensure maximizing food grain production through a package of practices, ensuring assured irrigation and applying higher doses of chemical fertilizers to tap the potential of high-yielding varieties. Biofertilizers are safer for soil health as well as for the ecosystem. Biofertilizers are defined as preparations containing living cells or latent cells of efficient strains of microorganisms that help crop plants uptake nutrients by their interactions in the rhizosphere when applied through seed or soil. Thus, the present study was conducted to evaluate the knowledge level of farmers on utilizing biofertilizers in Annamayya district of Andhra Pradesh. A total of 60 farmers were purposively selected for the study. Ex-post-facto research design was followed. Data were collected with the help of an interview schedule, and the collected data were analyzed with the help of statistical measures like frequency, percentage, mean, and standard deviation. The results of the study revealed that 88.33 of respondents were using biofertilizers without mixing with chemical fertilizers, 80.00 of respondents have knowledge on the expiry date of powder form of biofertilizers, regarding source of availability, 66.66 reported that they avail biofertilizers from research stations, 61.66 per cent of respondents have knowledge on Phosphate Solubilizing Bacteria (PSB) among the type of biofertilizers used. The major constraints faced by the respondents in utilizing the biofertilizers were Lack of separate marketing facilities for crops produced using biofertilizers (71.66%) and Non-availability of biofertilizers locally at times when needed (66.67%) and suggestions were Provision of better marketing facilities for crops produced using biofertilizers (86.66%) and Biofertilizers should be available in time at local level (76.66%).

Keywords: Biofertilizers, Knowledge, constraints, suggestions, farmers.

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INTRODUCTION

Indian agriculture has changed since the green revolution era. The major thrust of the green revolution is to ensure maximizing food grain production through a package of practices, ensuring assured irrigation and applying higher doses of chemical fertilizers to tap the potential of high-yielding varieties. Henceforth, Bio-fertilizers were found to be one of the viable options for sustained agriculture. Biofertilizers are safer for soil health as well as for the ecosystem. Biofertilizers are defined as preparations containing living cells or latent cells of efficient strains of microorganisms that help crop plants uptake nutrients by their interactions in the rhizosphere when applied through seed or soil. With this background, the study entitled "Knowledge level of farmers on utilization of biofertilizers in Annamayya District of Andhra Pradesh" was undertaken with specific objectives.

MATERIALS AND METHODS

Ex post-facto research design was used for the study. Ex-post facto research is a systematic

empirical enquiry in which the scientists do not have control over influencing independent variables because manifestation has already occurred. The Andhra Pradesh state was chosen as the locale of the study since the researcher belonged to the state and was familiar with the local language and culture. The study was conducted in the Annamayya district of Andhra Pradesh. The list of beneficiaries who have purchased biofertilizers from KVK, are being selected for the study. Among the list of beneficiaries 60 were selected by following simple random sampling. To measure the knowledge of the farmers, the data were collected with the help of structured interview schedule. Appropriate statistical analysis was done with the help of various statistical measures like frequency and percentage.

RESULTS AND DISCUSSION

Knowledge level of the farmers towards biofertilizers in Annamayya district

Table 1: Level of knowledge on biofertilizers

S.No.	Particulars	Knowledge level		
		F	P	
1.	Type of biofertilizer used	Rhizobium	35	58.33
		Azospirillum	28	46.66
		PSB	37	61.66
		Azotobacter	21	35.00
2.	Source of availability	Research stations	40	66.66
		Dept.of agriculture	36	60
		KVK	38	63.33
		Fertilizer shops	31	51.66
3.	Method of application	Seed treatment	34	56.66
		Seedling dipping	23	38.33
		Soil application	29	48.33
		Through irrigation (Drip)	32	53.33
4.	Quantity required	Soil application 2 kg/acre	30	50.00
		Seed treatment	49	81.66
		Drip 5ml/lit	22	36.66
5.	Time of application		35	58.33
6.	Time gap within which the treated seeds to be sown		37	61.66
7.	Using biofertilizer without mixing with chemical fertilizers		53	88.33
8.	Using biofertilizer before expiry date	6 months for powder form	48	80.00
		1 year for liquid form	27	45.00
9.	Cost of biofertilizers	Rs. 80/- per kg	14	23.33
		Rs. 300/- per litre	12	20.00
10.	Forms of biofertilizer	Powder form	45	75.00
		Liquid form	19	31.66

Table 2: Constraints faced by the farmers

S.No.	Constraints	Frequency	Percentage
1.	Low shelf life of biofertilizers	17	28.33
2.	Non-availability of biofertilizers locally at times when needed	40	66.67
3.	No visual difference in the crop growth immediately as that of chemical fertilizers	29	48.33
5.	Lack of availability of literature on biofertilizer usage	25	41.66
6.	Complicated process of biofertilizer usage	31	51.66
7.	Lack of subsidies on biofertilizers	42	70.00
8.	Lack of guidance from extension personal	28	46.66
9.	Lack of confidence towards different biofertilizer practices	32	53.33
10.	Lack of separate marketing facilities for crops produced using biofertilizers	43	71.66

Table 3: Suggestions to overcome constraints

S.No.	Suggestions	Frequency	Percentage
1.	Biofertilizers should be available in time at local level	46	76.66
2.	Subsidy on biofertilizers	43	71.66
3.	Extension agencies should provide training on the technical aspects of biofertilizers	32	53.33
4.	Awareness campaign on the popularization of biofertilizers	13	21.66
5.	Proper guidance about the use of biofertilizers	19	31.66
6.	Printed literature in simple local language can be distributed by the Dept. of Agriculture and the University or the Krishi Vigyan Kendra	29	48.33
7.	Assured quality of bio-fertilizers from production units	38	63.33
8.	Provision of better marketing facilities for crops produced using biofertilizers	52	86.66

CONCLUSION

From Table 1, it was revealed that the majority 61.66% of respondents have knowledge on PSB among the type of biofertilizers used; regarding source of availability, 66.66 reported that they avail biofertilizers from research stations,)56.66(% of the respondents have knowledge on method of application of biofertilizers for seed treatment and)81.66(% have knowledge on quantity required for seed treatment, 88.33 of respondents were using biofertilizers without mixing with chemical fertilizers, 80.00 of respondents have knowledge on expiry date of powder form of biofertilizers. Table 2 indicated that the major constraints faced by the respondents in utilizing the biofertilizers were Lack of separate marketing facilities for crops produced using biofertilizers (71.66%), Non availability of biofertilizers locally at times

when needed (66.67%) and Table 3 indicated that suggestions were Provision of better marketing facilities for crops produced using biofertilizers (86.66%), Biofertilizers should be available in time at local level (76.66%).

Suggestions:

There is a need to create awareness among a few farmers (those who are not using Biofertilizer) about the consumption of Biofertilizer. The Government of Andhra Pradesh should encourage farmers to use Biofertilizer because it is cost-effective and eco-friendly.

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REFERENCES

- Bhople, R. S., & Borker, R. D. (2002). Biofertilizers farmer's attitude and adoption, *Agricultural Extn. Review* 14, 21-22.
- Isha, A., Bibudha, P., & Swatee, P. (2021). A Study on the Extent of Knowledge Gained and Adoption of Bio-Fertilizers and Bio-Pesticides by the Crop Growers of Keonjhar District in Odisha. *International Journal of Current Microbiology and Applied Sciences*. 10(9), 351-356.
- Magarvadiya, D. K., & Patel, V. T. (2014). Knowledge and Attitude of Farmers Regarding Biofertilizers. *Guj. J. Ext. Edu.* 25(2), 149-151.
- Raghavendra, P., Virang, N., Sandya, C., & Swarnakar, V. K. (2016). Study on knowledge and adoption behavior of farmers using biofertilizers in Ujjain District. *International Journal of Agriculture Innovations and Research*. 5(1), 49-53.
- Sangapal, P. I., & Rachana, R. T. (2016). A Study of Farmers Awareness Towards Biofertilizers Consumption in Aurangabad District. *Indian Journal of Research*. 5(8), 165-168.
- Suman, R. S. (2012). Technological Knowledge of Farmers about the Use of Bio-fertilizers in Kullu, Himachal Pradesh. *Indian Res.J.Ext.Edu.* 12(2), 123-124.