

**RESEARCH ARTICLE :**

Knowledge and attitude of farmers towards soil health cards in Krishna district

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SUMMARY : Soil testing is well recognized as a sound scientific tool to assess inherent power of soil to supply plant nutrients. Soil health card (soil test result) can be used to optimize the use of fertilizer in the integrated nutrient management (INM) system. It is essential to create maximum awareness among farmers about judicious use of chemical fertilizers and use of soil health cards. Ten farmers randomly selected from ten different villages that have availed soil testing technique with the total of 100 farmers. The data collect through personal interview method with the pre-tested schedule designed for the purpose. Majority of respondents had poor knowledge regarding soil testing practices but respondents with 45.00 mean per cent score had maximum knowledge regarding benefits of soil testing. While, maximum knowledge gap was observed in proper technique of sampling for horticultural crops. It was also observed that majority of farmers were in positive attitude (72%) with “Soil testing is necessary for better crop production”. Majority of the farmers (76%) did not agree with the statement that “Soil testing is wastage of time and money”. Half of the (50%) respondents expressed that expenditure of crop production decreases after soil testing. Sixty one (61) per cent adopters said that, “Soil testing is very long process”. Therefore, as per problem faced and suggested by the farmers more scientific and educational trainings and facilities are required to disseminate the technology at large.

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BACKGROUND AND OBJECTIVES

Soil is one of the elements required for farming as it provides nutrients to the plant. Healthy soil contains all the elements for growth and development of crop. As far as agriculture production is concerned, soil health play vital role in ensuring sustainable production with optimizing the utilization of fertilizer and reducing its waste. Judicious application of chemical fertilizers by the

farmers in crops is very much essential to achieve maximum production and earn maximum profit. Soil testing is well recognized as a sound scientific tool to assess inherent power of soil to supply plant nutrients. The benefits of soil testing have been established through scientific research, extensive field demonstrations and on the basis of actual fertilizer use by the farmers on follow recommendations. Neufeld *et al.* (2006) stated that soil testing is the only necessary

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and available tool for determining the amount of soil nutrients. Hence, to avoid deterioration of soil in long run and visualizing the importance of balance nutrient in crop production, government of India commenced soil health card programme. Soil health card (soil test result) can be used to optimize the use of fertilizer in the integrated nutrient management (INM) system. The soil test /soil health card programme brings together the scientific community in the field of agriculture, the information repository of latest tool, techniques and cropping practices, the farmers and the Government for the economics upliftment of the people at large. Soil testing is a comprehensive soil fertility evaluation programme which helps the farmer's in judicious application of chemical fertilizers in a balanced form to the crops. The soil testing of a particular field gives reliable information about the deficiency of major and micro nutrients in the soils as well as hazards such as soil acidity, alkalinity and salinity. After testing the soil, farmers can know the exact amount of nutrients to be applied for a particular crop in a particular field.

Farmers' knowledge regarding the sustainable practices with their farming systems have emerged as the best predictor of adoption of such practices. Thus, if a person has limited knowledge and experience about a technology then he/she cannot accurately perceive it or form an opinion on it. Therefore, soil testing will definitely be advantageous to the farmers in achieving maximum production and in earning max profit. So it is essential to create maximum awareness among farmers about judicious use of chemical fertilizers. Keeping in view the importance of soil testing towards optimum production of crop and maximum net profit of farmers, with the following objectives:

- To find out the knowledge of farmers toward soil testing practices.
- To study the adoption of soil testing practices

farmers.

RESOURCES AND METHODS

The present study was taken up in five mandals viz., Avanigadda, Koduru, Mopidevi, Challapalli and Ghantasala and in purposely selected two villages from each mandal of Krishna district in Andhra Pradesh. One hundred farmers were randomly selected from ten different villages from the district were selected purposively. Ten farmers randomly selected from each village that have availed soil testing technique. Thus, total numbers of farmers from ten villages were 100. The data collect through personal interview method with the pre-tested schedule designed for the purpose. The data were tabulated and analyzed with the objectives to assess the knowledge and adoption of farmers toward soil testing practices.

OBSERVATIONS AND ANALYSIS

Table 1 reveals that majority of respondents had poor knowledge regarding soil testing practices but respondents with 45.00 mean per cent score had maximum knowledge regarding benefits of soil testing, 30.00 mean per cent score had knowledge on how much quantity of soil to laboratory for analysis process and 26.00 mean per cent score had knowledge on proper check list of a soil sample, respectively. While, maximum knowledge gap was observed in proper technique of sampling for horticultural crops, proper technique of sampling for normal crop production and location of soil testing laboratory having 85.00, 75.00 and 82.00 mean per cent score, respectively about soil testing practices. Knowledge regarding the benefit of soil testing was found most important for soil test (SHC programme). Agbamu's (1993) findings stated that farmers' knowledge of technology made contribution to its adoption. These

Table 1: Knowledge of farmers about soil testing practices

Sr. No.	Improved practices	Extent of knowledge	Knowledge gap
		MSP (mean present score)	MSP (mean present score)
1.	How much quantity of soil to laboratory for analysis process	30	70
2.	Proper technique of sampling for normal crop production	25	75
3.	Proper technique of sampling for Horticultural crops	15	85
4.	Proper understanding of the soil health card	26	74
5.	Benefits of soil test	45	55
6.	Location of soil testing laboratory	18	82

Table 2 : Distribution of respondents according to their attitude towards soil testing practices

Sr. No.	Statements	Responses			Total
		Agree	Undecided	Disagreed	
1.	Result of soil test is given in timely	45	10	45	100
2.	Result of soil testing is reliable	40	14	46	100
3.	Behaviours of soil testing staff is good to the farmers	70	20	10	100
4.	Soil testing is necessary for better crop production	72	08	20	100
5.	Soil testing is very long process	61	09	30	100
6.	Soil testing is wastage of time and money	18	06	76	100
7.	Expenditure of crop production decreases after soil testing	50	10	40	100
	Average percentage	50.85	11	38.14	100

findings are consistent with the results found by (Yadav *et al.*, 2005; Pagaria, 2011 and Patel and Chauhan, 2012). To ensure the importance of the technology state government has always given their advisement in time interval to enhance balance and efficient use of fertilizers based on soil testing (Rao and Rao, 1996).

The results in Table 2 indicated that the average percentage of respondents were in agreement (50.85%) towards soil testing practices and 38.14 per cent of the respondents were in disagreement. Mostly respondents (76%) did not agree with the statement that “Soil testing is wastage of time and money”, only 18 per cent were agreed with the statement. It was also observed that majority of farmers were in positive attitude (72%) with “Soil testing is necessary for better crop production”. When the respondents were interviewed regarding “Result of soil testing is reliable”, only 40 per cent of adopters agreed with the statement, whereas 46 per cent adopters disagreed with it. Half of the (50%) respondents expressed that expenditure of crop production decreases after soil testing. Sixty one (61) per cent adopters said that, “Soil testing is very long process”. This means the soil testing agencies should speed up the process so that farmers will increase the faith on the results of soil testing. These findings are consistent with the results found by (Patodiya and Meena, 2016 and Rajput *et al.*, 2016).

Conclusion:

The study indicated that the majority of respondents had poor knowledge along with maximum knowledge gap in proper technique of sampling for Horticultural and normal crops. Respondents were shown positive attitude towards “soil testing is wastage of time and money” (76 %) and did not agree with the statement. It was also observed that majority of farmers agreed (72%) with

the statement “soil testing is necessary for better crop production. The efforts should be made by KVK and Department of agriculture to encourage the farmers in adoption of soil testing practices by organising training programmes on importance of soil testing or soil health card and its utility and campaigns especially on soil testing process. By adopting the soil testing practices the farmers also reduced the unnecessary chemical fertilizer consumption and the judicious use of chemical fertilizers could be popularised. Therefore, as per problem faced and suggested by the farmers more scientific and educational trainings and facilities are required to disseminate the technology at large.

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