Original Research Article

Knowledge and Attitude of Farmers for Conducting Soil Analysis

Abstract

Judicious application of chemical fertilizers by the farmers in crops is very much essential to achieve maximum production and to earn maximum profit. Soil testing is a comprehensive soil fertility evaluation programme, which helps the farmer's to apply chemical fertilizers in a judicious way. The farmers should be able to know the exact quantity of nutrient to be applied for a particular crop based on soil test analysis. The majority of farmers have knowledge about soil testing practices. Majority of respondents were using the knowledge gained from scientists working in Krishi Vigyan Kendra and the experts of State Deptt. of Agriculture. Most of the respondents were in disagreement with the statements and mostly adaptors possessed unfavourable attitude towards soil testing practices. Majority of farmers agreed 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 and campaigns.

(Key words : Soil, Nutrient, Testing, Fertilizer etc.)

Introduction

Soil is one of the essential elements required for farming as it not only a medium for plant growth but also supplies nutrients to plants.. Healthy soil contain all the nutrients for growth and development of crop. The soil deprived from one or more nutrient either reduces the production or degrades the quality of crops. 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. The research studies revealed that most of the farmers are continuously using larger quantities of chemical fertilizers to increase production without knowing the fertility status of the soils (Srivastava and Pandey, 1999). Soil Testing is well recognized as a sound scientific tool to the assess inherent capacity 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 by following recommendations. Neufeld and Davison (2000) stated that soil testing is the only necessary and available tool for determining the amount of soil nutrients. Hence, to avoid deterioration of soil in long run and visualizing the importance of balanced nutrition for crop production, Government of India started soil health card programme. The soil health card is a simple document, which contains useful data on soil based chemical analysis to describe soil health in term of its nutrient availability and physical and chemical properties. Soil health card 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. Since, change in knowledge preceded acceptance and application of an innovation, it is therefore, always important to find out the factor responsible for positive or negative disposition associated with farmer toward the usefulness and application of soil health card programme (Patel *et al*. 2017). 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. 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 this study was carriedout in the district Barmer of Rajasthan with the following objectives -To find out the knowledge of farmers toward soil testing practices. And to observe the attitude of farmers towards soil testing practices.

Material and Methods

The study was conducted in ten randomly selected villages of district Barmer in 2018-19. Twenty farmers were randomly selected from each village who have availed soil testing technique. The data was collected by personal interview method using a schedule designed for this purpose. Majority of farmers (92 percent) had knowledge about soil testing.

Result and Discussion

The data given in Table 1 indicated that majority of respondents (35.6 and 25.2 %) have used the knowledge gained from scientist working in Krishi Vigyan Kendra and the experts from State Department of Agriculture. Four percent respondents gained knowledge through television. Whereas only three percent respondents collected knowledge from radio and farm magazines, extension literature about soil testing and seven percent farmers had no knowledge of soil testing.

Table 1: Distribution of respondents according to utilization of source of knowledge.

S. No.	Source of knowledge	Frequency	Percentage
1	KVK Scientist	89	35.6
2	Personnel of State Department of Agriculture.	63	25.2
3	Fellow Farmers	15	6.0
4	Farm Magazines/Ag. Ex. Literature	07	2.8
5	Radio	06	2.4
6	T.V. Talk	10	4.0
7	Kisan Gosthis	14	5.6
8	Kisan Mela	26	10.4
9	No Knowledege	20	8.0

	Total	250	100

The results presented in Table 2 showed that the majority of respondents were in the disagreement with the statements and mostly adoptors possessed unfavourable attitude towards soil testing but it could also be noted that sometimes they had showed positive attitude because 2.4% respondents did not have any decision for the statement

that "Soil testing is wastage" of time and money. When the respondents were asked about the "Result of Soil testing is reliable" only 38 percent agreed with the statement whereas 58 percent disagreed with it. Moreover 43.2 percent adaptors said that "soil testing is very long process". This showed that soil testing agencies are not working properly in the area and the farmers did not show much faith on the results of soil testing. It was also observed that majority of farmers agreed (78.4%) with the statement "Soil testing is necessary for better crop production indicating the farmer's attitude was generally conservative.

Table 2: Distribution of respondents according to their attitude.

S. No.	Statements	Response						
		Agree		Undecided		Disagree		Total
			%		%		%	
1.	Results are given timely	75	30	25	10	150	60	250
2.	Results of soil testing are reliable	95	38	10	4	145	58	250
3.	Behaviour of soil testing staff is good	103	41.2	25	10	122	48.8	250
4.	Number of crops increased in one year after soil testing.	92	36.8	20	8	138	55.2	250
5.	Soil testing is necessary for better crop production.	196	78.4	5	2	49	19.6	250
6.	It is very long process.	108	43.2	15	6	127	50.8	250

7.	Soil testing is wastage of time and money	34	13.6	6	2.4	210	84	250
8.	Expenditure of crop production decreases after soil testing.	98	39.2	11	4.4	141	56.4	250

CONCLUSION

The study indicated that the majority of respondents had poor knowledge and maximum knowledge gap was observed in proper technique of soil sampling for fruit plantation and normal crops. The study also shows positive attitude because most of adaptors did not agree with the statement that "soil testing is wastage" of time and money and it was also observed that majority of farmers agreed (78.4 %) 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. By adopting the soil testing practices the farmers also reduced the large 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 properly. Extension workers can prove to be very useful in bridging the barriers in adoption of the soil test technology.

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