Indian Journal of Extension Education
Vol. 55, No. 2 (April-June), 2019, (94-96)

Research Note

Knowledge, Adoption and Constraints of Soil Health Card based Fertilizer Application in Ratlam District, M.P.

Ramdhan Ghaswa[1], Sarvesh Tripaty[2] and Barkha Sharma[3]

ABSTRACT

Since inception of soil health card programme during 2015-16 in order to increase agricultural production and sustain soil health, a large number of soil health cards have been distributed to the farmers. In order to assess the knowledge, adoption and constraints of soil health card, the present study was carried out. The farmers who were issued soil health card were comparatively more aware about various soil health card aspects like major nutrients (N, P & K), soil pH, soil EC and micronutrients as compared to farmers without soil health card. Data shows that maximum number of respondents had medium knowledge score that is 56.95 per cent followed by respondents with low knowledge score (23.61%) and only 19.44 per cent respondents had high knowledge score about soil health card. Major constraints faced by the farmers in adoption according to soil health card were difficulty in having knowledge about the importance of micronutrients, the prices of fertilizers being too high and non-availability of organic manure.

Keywords: Adoption, Constraints, Farmer's, Knowledge, Soil health card

INTRODUCTION

Soil Health Card is a Government of India's scheme promoted by the Ministry of Agriculture and Farmers' Welfare. It is being implemented through the Department of Agriculture of all the States and Union Territories of India. A Soil Health Card is issued to have a data base of the current status of soil health and, when used over time, to determine changes in soil health that are affected by land management. A Soil Health Card (SHC) displays soil health indicators and associated descriptive terms. The indicators are typically based on farmers' practical experience and knowledge of local natural resources. The card lists soil health indicators that can be assessed without the aid of technical or laboratory equipment. It is a printed report that a farmer is handed over for each of his holdings. It contains the status of his soil with respect to 12 parameters, namely N, P, K (Macro-nutrients); S (Secondary- nutrient); Zn, Fe, Cu, Mn, Bo (Micro - nutrients); and pH, EC, OC (Physical parameters). Based on this, the SHC also indicates fertilizer recommendations and soil amendment required for the farm. The card contains an advisory based on the soil nutrient status of a farmer's holding. It shows recommendations on dosage of different nutrients needed so as to realize optimal yields.

METHODOLOGY

The study was conducted in Ratlam district of M.P. The Soil Health Card prepared in all block of Ratlam district, out of which two Block were chosen for the study. For selection of villages, lists of villages were prepared from the selected block. There were 6 villages in the selected block where soil health card activities have been in operations in the last year 2017-18. Out of the list three villages were selected randomly from each selected block. This way a total of 6 villages were selected from the

[1]SMS (Extension Education), [2]Senior Scientist & Head, [3]SMS (Home Science), Krishi Vigyan Kendra, Jaora, Ratlam-457339, Madhya Pradesh

identified block. From the lists so prepared, 12 soil health card holders were selected randomly from each identified village. Thus, a total of 72 respondents were selected on the basis of random sampling method from the identified villages. An interview schedule was prepared consisting of tools to measure the variables. The reliability and validity of the schedule were ensured in order to record the authentic information from the respondents. Responses of the respondents were recorded by personal interview method. The responses were then converted in to scores and transferred in master table to analyze applying appropriate statistical tests.

RESULTS AND DISCUSSION

The data in Table 1 that maximum number of respondents had medium knowledge score that is 56.95 per cent followed by respondents with low knowledge score (23.61%) and only 19.44 per cent respondents had high knowledge score about soil health card. The findings are supported by Bhatt *et al*. (2010).

The data presented in Table 2 shows that maximum number of respondents had high adoption percent related to nutrient deficiency while 100 per cent Adoption percentage was found in application of nitrogen whereas lowest adoption percentage i.e. 12.50 and 66.66 per cent was found in application of copper, potash and boron.

Table 1: Knowledge among farmers about soil health card

Item	Frequency	Percentage
Low Knowledge Level (Score upto 12.55)	17	23.61
Medium Knowledge Level (Score From 12.56 to 17.53)	41	56.95
High Knowledge Level (Score above 17.53)	14	19.44

Table 2: Extent of adoption of soil health card based nutrient management practices by the soil health card beneficiary farmer's

Nutrient	No. of Farmers finding soil nutrient deficient in SHC	No. of Farmers adopted according to SHC	
		Frequency	Percentage
Major			
i. Nitrogen	41	40	97.56
ii. Phosphorus	55	49	89.09
iii. Potash	21	13	61.90
iv. Sulphur	18	15	83.33
Micro			
i. Zinc	39	29	74.36
ii. Iron	35	21	60.00
iii. Manganese	59	24	40.67
iv. Boron	48	19	39.58
v. Copper	51	18	35.29

The data in Table 3 illustrates that majority of farmers (72.22%) expressed difficulty in application of fertilizers as per recommendations due to having the prices of fertilizers too high. 69.44 per cent of them expressed difficulty due to their lack of knowledge about the importance of micronutrients. 65.27 per cent farmers expressed their view on non-availability of organic manure. Similar trend have been reported by Patel and Chauhan (2012).

Table 3: Constraints among farmers about utilization of soil health card

Item	Percent	Rank
Difficult to understand the information on SHC without the assistance of agricultural/extension officer	56.94	V
Difficulty in calculating fertilizer dose on the basis of nutrient status of soil	45.83	VII
Unavailability of micronutrient fertiliser in market	58.33	IV
Sometimes adequate quantity of fertilisers not available	47.22	VI
Prices of fertilisers are high	72.22	I
Lack of knowledge about the importance of micronutrients	69.44	II
Collection of soil sample was not done as per scientific equipment & technique	31.94	IX
Non-availability of NPK combination fertiliser	36.11	VIII
Non –availability of Organic Manure	65.27	III

CONCLUSION

It can be concluded that majority of the farmers had medium knowledge level about soil health card. Major constraints faced by the farmers in adoption according to soil health card were difficulty in calculating dosages, high prices of fertilisers are high, knowledge about the importance of micronutrients and on non-availability of organic manure. Therefore, it is suggested that the policy makers should make suitable programmes and train the farmers and change agents to use the soil health card to a maximum level.

Paper received on : May 10, 2019

Accepted on : May 17, 2019

REFERENCES

Bhatt, P.M., Patel, H.B. and Patel, B.M. (2010). A Study on awareness about Soil Health Card, *Gujarat Journal of Extension Education*, **20-21**, 53-54.

Chowdary, K.R. and Theodore, R.K. (2016). Soil health card adoption behaviour among beneficiaries of Bhoochetana project in Andhra Pradesh, *Journal of Extension Education*, **28**(1), 5588-5597.

Patel, R.C. (2000). A study on the consequences of adoption of watershed management technology by beneficiary farmers in watershed area of Kheda district of Gujarat State. Ph.D. Thesis, Sardarkrushinagar, Dantiwada Agricultural University, Sardarkrushinagar, Gujarat (India).

Patel, J.K. and Chauhan, N.B. (2012). Attitude of farmers towards soil health card (SHC) programme, *Asian Journal of Soil Science*, **7**(1), 114-116.