



EXTENT OF ADOPTION OF RECOMMENDED FERTILIZER MANAGEMENT UNDER SOIL HEALTH CARD SCHEME IN BALDIRAI BLOCK OF SULTANPUR DISTRICT

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ABSTRACT: Injudicious and haphazard use of chemical fertilizer in agriculture is a matter of concern in recent times. To avoid deterioration of soil in long run and visualizing the importance of balance nutrient in crop production. The soil health card (SHC) provides soil health data to get appropriate guidance to the farmers for the efficient use of fertilizer to cultivate crops based on soil health analysis. The SHC is a simple document, which contains useful data on soil based on chemical analysis of the soil to describe soil health in terms of its nutrient availability and its physical and chemical properties. The soil health card is made available online also for the farmers. To understand the feelings of the farmers against this system, there is an urgent need to study the degree of positive or negative disposition associated with farmer towards the usefulness and application of soil health card. Thus the present study on farmers' perception regarding soil health card was undertaken. The study was conducted in Sultanpur district with 120 soil health card holders. The findings revealed that majority of the farmers were having knowledge and understanding about the utility of soil health card. The findings further reveals that maximum number of soil health card holders were having favorable attitude towards soil health card followed by less favorable and most favorable attitude towards soil health card. Among constraints, received soil health card after crop harvest was the major constraint faced by majority of the respondents.

Keywords: Soil health card, perception.

INTRODUCTION:

In India, intensive agriculture has resulted in impressive growth in food grain production powered by improved varieties of seeds, application of fertilizers and assured irrigation. The existing NPK consumption ratio in the country during the year 2012-13 is skewed at 8.2:3.2:1 as against the preferred ratio of 4:2:1. A great variability is observed in fertilizer consumption among states from 250 kg ha⁻¹ in Punjab, 212 kg ha⁻¹ in Bihar, 207 kg ha⁻¹ in Haryana to 4.8 kg ha⁻¹ in Nagaland and 2 kg ha⁻¹ in Arunachal Pradesh in nutrient from during 2012-13. However, imbalanced application of fertilizers have caused deficiency of primary nutrients (i.e. NPK), secondary nutrients (such as sulphur) and micronutrients (boron, zinc, copper etc.) in most parts of the country. Today, India is on verge to improve the agricultural productivity



while improving the soil quality and crop quality in a sustainable way. However, till recent past, fertilizer recommendations for different crops are made on the basis of agronomical practices and not on the soil test base. Fertility maps prepared using soil analysis, in general, are not able to give specific information for the farm of each and every farmer. Deteriorating soil health has been a cause of concern and that has been leading to sub optimal utilization of farming resources, imbalanced use of fertilizers, low addition of organic matter and non-replacement of depleted micro and secondary nutrients over the years, has resulted in nutrient deficiencies and decrease in soil fertility in some parts of the country. So, to improve the soil health and boost productivity it has become necessary to nurture the soil. In the wake of this, government launched Soil Health Cards (SHC) programme. Soil surveys are made for Natural Resource Management and soil testing is conducted as part of fertilizer use and management. Besides, SHC includes all related information of farmers' field. Soil test based recommendation for fertilizer use will not only increase the crop production with judicious investment on fertilizer use but will also help to keep the soil productivity sustainable. Soil health card scheme launched by the government has the provision for providing soil health cards to farmers once in three year for their land holding which shall contain crucial information on macro and micro nutrients, secondary nutrient and physical parameters. The card shall also be accompanied by advisory on corrective measures a farmer should take for improved soil health and a better yield. It also allows for registration of collection of soil samples along with testing in approved labs. The benefit of the soil health card would provide an assessment about use of major fertilizers and making him aware of the missing nutrients and those which could be added for a balance soil.

RESEARCH METHODOLOGY:

As per the list provided by soil testing laboratory of Department of Agriculture, Sultanpur in October 2018, the one block i.e. Baldirai was having 120 number of soil health card holders was selected purposively. For selection of respondent systematic random sampling method was used. From the selected block every second soil health card holder was selected as respondents. So, in all 120 soil health card holders were investigated to collect the data. Thus, selected sample was comprised of 120 soil health cardholders.

RESULTS AND DISCUSSION:

Profile Characteristics of Respondents

More than half (51.0%) of the respondents were found to be middle aged, followed by 28.0 per cent young aged, and the remaining 21.0 per cent were old aged. With respect to education, more than one-third of the respondents (39.00%) were educated upto middle level, followed by 28.00 per cent with higher secondary education, 17.00 per cent had collegiate education, and the rest (16.00%) had primary level of education.

As far as farm size was concerned, more than two-thirds (69.00%) of the respondents had medium level of farm size, followed by 19.00 per cent in high category, and the remaining 12.00 per cent of the respondents had low level of farm size. It was also found that that 40.00 per cent of the respondents were found between the income range of Rs.1,00,001- 2,00,000, followed by one-fourth (25.00%) with an income range between Rs.50,001-1,00,000, 17.00 per cent was found with Rs.2,00,001- 3,00,000, 10.00 per cent was found above Rs.3,00,000, and the rest (8.00%) were found in upto Rs.50,000 income category. **According to Dutta (2009) and Sabo (2007)**, ownership of livestock contributes to wealth status, and wealthier farmers are likely to have more motivation to adopt ISFM, and to continue to seek for and access relevant information using various channels so as to cater for their information needs. With respect to contact with extension agency, about three-fourths (73.00%) of the respondents had medium level of contact with extension agency and other sources, and the rest (27.00%) had high level of contact with extension agency and other sources.



It was also found that three-fourths (75.00%) of the respondents had medium level of shared meaning on SHM, and the rest one-fourth (25.00%) had high level of shared meaning on SHM. Further, majority (60.0%) of the respondents had medium level of value attribution to SHC recommendations, followed by more than one-third (35.0%) with high level of value attribution and the rest (5.0%) had low level of value attribution to SHC recommendations. Moreover, it was observed that half (50.00%) of the respondents had expressed that they would regularly follow the SHC recommendations in future, followed by 47.00 per cent who stated that they may or may not follow, and the rest (3.00%) fell under the may not follow category with respect to SHC recommendations.

Overall Knowledge:

The distribution of farmer respondents according to their overall knowledge on SHM is given in Table 1. It is seen that a vast majority (83.00%) of the respondents had medium level of overall knowledge on SHM, and the rest (17.00%) had high level of overall knowledge on SHM. All the respondents are seen to be distributed between medium to high categories with respect to overall knowledge on SHM. It was also found that among the SHM practices on which the respondents had less knowledge were 'green manure crops' (52.0%), 'tool for N recommendation in rice (Leaf Colour Chart)' (86.0%), and 'bio-fertilizers' (88.0%). **Krishnakumar (1987)** observed that majority of the adopters (63.34%) and non-adopters (66.67%) possessed medium level of knowledge on Soil Conservation practices. **Sathyanarayanan (1991)** reported that most of the farmer respondents possessed medium level of knowledge.

Table.1 Distribution of Respondents according to Overall Knowledge on SHM

S.N.	Overall Knowledge categories	Percentage
1.	Low (12-15 scores)	-
2.	Medium (16-19 Scores)	83.00
3.	High (20-24 scores)	17.00
	Mean	19.84

Extent of Adoption:

The results of the analysis of extent of adoption of SHC recommendations are presented in Table 2. From Table 2 it is seen that among adopters of SHC recommendations, 47.50 per cent of the farmers had adopted the SHC recommendations as such without any deviation. It is seen that a vast majority had applied excess quantity of inputs. On enquiry they reasoned that the recommendations are less reliable, exact usage of fertilizer recommendations is difficult, unscientific method of soil sample collection, recommendations not suitable for specific village conditions, expectations of high returns by applying more than recommended doses, and following neighbouring farmers in applying fertilizers.

Table.2 Distribution of Respondents according to Extent of Adoption of SHC Recommendations

S.N.	Extent of Adoption Categories	Adopters of SHC recommendations	
		Number	Percentage
1.	Less adoption (-)	-	-
2.	Recommended level of adoption	57	47.50
3.	Excess adoption	-	-



CONCLUSION:

The finding regarding awareness about soil health card indicates that majority of the respondents were aware about the utility of soil health card. The finding regarding perception of farmers about soil health card indicates that maximum percentage of respondents were having favourable attitude towards soil health card. It was also found that perception regarding soil health card was not only affected by the basic characteristics of the farmers i.e. education, land holding, extension contact, mass media exposure, innovativeness, scientific orientation, irrigation facility but also by the level of awareness. An understanding of the perception of farmers and description of constraints faced by the respondents may serve as a feedback to the planners, policy makers, extension personnel, scientist and development agencies to make suitable strategy in implementation of the scheme.

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