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## Impact and constraints analysis of farmer's in adoption of INM in okra

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### Abstract

The investigation was carried out to find out the effect of integrated nutrient management on growth and yield of okra, using high yielding variety. The KVK, Navsari had demonstrated INM in okra in tribal area. Since five years about 525 FLDs on INM okra were under taken. To know the impact of INM technology along with the constraints faced by the tribal farmer the attempt were made. FLDs on INM demonstrations have covered the way of healthier, long, least cost and sustainable production with maintaining the soil health. The results seen the overall knowledge of INM demonstrations indicated that low, medium and high level of knowledge before contact with the KVK was 58 per cent, 33 per cent and 09 per cent, respectively. It was altered up to 21 per cent, 56 per cent and 23 per cent, respectively after contact with the KVK. In case of knowledge regarding selected scientific innovations for demonstrations high knowledge regarding selected scientific innovations were found except IPM (14 %). It can be suggested that FLDs in the south Gujarat region found to be an important constraints and were ranked in first position which needs to be solved for betterment of the tribes in this region.

**Keywords:** constraints analysis, demonstrations, scientific innovations

### Introduction

Okra (*Ablemoschus esculentus* (L). Moench) is most popular vegetable grown though out in India and even in tropical regions of the world during all the seasons. The growth, yield and quality of the okra largely depend upon the application of the fertilizer because of its short duration crop. It requires proper and sufficient quantity of N, K and other micronutrients for regular fruiting and picking. Recently problem of micronutrient deficiency increased markedly due to intensive cropping and decreased use of farm yard manure. Okra has a high nutritive value and plays an important role in human diet. Okra is a good source of carbohydrate, fat, proteins, vitamins and minerals (Emuh, *et al.* 2006) [1]. The current approach of integrated nutrient management (INM) is focused on disseminating technical knowhow to major stake holders to optimize use of organic, inorganic and bio-fertilizers for sustainable agriculture. INM is the most important methods to reduce input of chemical fertilizers and increase the use of organic manures such as animal, crop residues and green manures which neutralized soil acidity and supplied essential micronutrient (Tandon, 1992) [5]. The okra crop is becoming more popular in Navsari district. The considerable area (4700 ha) is under okra cultivation. Due to lack of knowledge regarding scientific package of practices tribal farmers are spending huge budget to crop production. Indiscriminate use of chemical fertilizer reduces the soil health. In this regard KVK Navsari has started INM campaign with the following objective.

### Objectives

- Suitable INM treatment to get maximum growth, pod and economic yield of okra and as well as good soil health
- Foliar application of micronutrients on growth and yield of okra
- Minimizing the use of chemical fertilizers through the use of organic manure and finding out the suitable combination of chemical as well as organic fertilizer

### Methodology

The present study was conducted in Navsari district of south Gujarat state. 18 villages of Navsari district were selected, sample size was 200 farmers. The data were collected through personnel interview. The interview schedule was prepared by keeping the objectives of the study in mind. The necessary care was taken to collect the un-biased and correct data. The data

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were collected, tabulated and analyzed to find out the findings and draw conclusion. The statistical tool like percentage was employed to analyze the data. The constraints as perceived by respondents were scored on the basis of magnitude of the problem as per Meena and Sisodiya (2004) [4]. The respondents were recorded and converted in to mean per cent score and constraints were ranked accordingly as per Warde *et al.* (1991) [6].

### Results and Discussion

The result of overall knowledge of INM indicated that the low, medium and high level of knowledge before contact with KVK was 58 per cent, 33 per cent and 09 per cent, respectively and it was increased up to 21 per cent, 56 per cent and 23 per cent after contact with KVK (Table 1). Javat *et al.* (2001) [3] reported the same results.

In case of selected knowledge regarding selected scientific innovations for INM high knowledge regarding selected scientific innovations were found, except IPM (Table 2)

Data presented in Table 3 indicated that majority of the farmer had medium level of knowledge 68 per cent before contact with KVK. After contact with KVK, 56 per cent of

the farmers had high level of knowledge regarding scientific cultivation of INM. Godawat (2011) supported the facts.

Attempts were also made to study and categories the major constraints in to suitable topics *viz.*, New high yielding variety, seed rate, time of sowing, integrated nutrient management, integrated pest management, knowledge regarding yellow mosaic virus/ powdery mildew, plant growth regulator and value addition (Table 4).

Under adoption of okra production technology, 83.00 per cent farmer's adopted high yielding varieties and more than 62.00 per cent farmers adopted INM and recommended seed rate. In case of plant growth regulator and value adoption 63.00 per cent and 77.00 per cent adoption was observed from the above discussion.

**Table 1:** Overall knowledge of scientific package of practices of okra N=200

Category	Before contact with KVK	After contact with KVK
Low level of knowledge	58	21
Medium level of knowledge	33	56
High level of knowledge	9	23

**Table 2:** Knowledge regarding selected scientific innovations for okra cultivation N=200

Sr. No	Selected scientific innovations	Low	Medium	High
1	New high yielding varieties	11	30	59
2	seed rate	14	29	67
3	Integrated Nutrient management	16	27	57
4	Time of sowing	7	18	75
5	Integrated pest Management	24	62	14
6	Knowledge regarding yellow mosaic virus / powdery mildew	26	43	31
7	Plant growth regulator	9	14	77
8	Value addition	5	15	80

**Table 3:** Overall adoption of scientific package of practices of okra (Percentage) N=200

Category	Before contact with KVK (%)	After contact with KVK
Low level of adoption	18	8
Medium level of adoption	68	36
High level of adoption	14	56

**Table 4:** Adoption of critical okra production technology (%) N=200

Sr No.	Name of technology	Adoption (%)
1	New high yielding varieties	83
2	seed rate	65
3	Time of sowing	53
4	Integrated Nutrient management	62
5	Integrated pest management	57
6	Knowledge regarding yellow mosaic virus / powdery mildew	51
7	Plant growth regulator	68
8	Value addition	77

### Conclusion

It was observed that the overall knowledge of respondents regarding INM was increased significantly after contact with KVK. In case of knowledge regarding selected scientific innovations regarding INM high knowledge regarding

selected scientific innovations were found except IPM. It can be concluded that knowledge level of the tribal farmer's were increased after imparting training conduction FLD by KVK scientists.

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