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Fld impact analysis on scientific chilli cultivation

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Abstract
Front line demonstration (FLD) is one of the most powerful tools for transfer of technology. In order to increase the productivity of Chilli (*Capsicum annuum* L.) by adopting improved technologies, several demonstrations with scientific package of practices were conducted by Krishi Vigyan Kendra, Navsari. Since three years about 74 FLD's on scientific cultivation on chilli were under taken. A study on impact of farmer's knowledge, adoption and knowledge regarding scientific innovations was conducted. The impact assessment was based on the comparison of before contact and after contact of KVK with reference to increase in knowledge level of farmer's regarding scientific packages of practices, extent of adoption of INM technology. It was found that the overall knowledge of INM demonstrations indicated that low, medium and high level of knowledge before contact with the KVK was 46 per cent, 40 per cent and 14 per cent, respectively. It was altered up to 12 per cent, 39 per cent and 49 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 (16 %). 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: impact analysis, scientific chilli cultivation

Introduction
Chilli *(Capsicum annuum* L.) is an important spice crop of India grown for its green fruits as vegetable and in ripe dried form as a spice. The native home of chilli is considered to be Mexico with secondary origin of Gautemala. It is also called as hot pepper, cayenne pepper, sweet pepper etc. Chilli belongs to the genus Capsicum under Solanaceae family. Five species of Capsicum are unser cultivation, through number of wild species have been identified recently. In India, only two species viz., capsicum annum and capsicum frutescens are known and most of the cultivated varieties belongs to the species capsicum annum. Chilli was introduced in India by the portugese in goa in the middle of the 17th century and since then it had rapidly spread thought the country.

Chilli is known for its flavor, pungency & colour and it belongs to the family Solanaceae. In India, chilli is an important ingredient in day to day curries, pickles and chutneys. In view of its usage in culinary purposes, about 97% of the production is consumed within the country leaving small portion for exports. Another reason for low export is that the prices of Indian chillies are too high for International markets on account of strong domestic demand.

The earning from export of dry chilli is between Rs. 150-200 crores every year. There is great scope to double or even triple the export by increasing production per unit area. At present, the average yield of our country is quite low (1t/ ha) as compared to the well developed countries like USA,South korea, Taiwan *etc*. where the average yield is between 3-4t/ha. Chille besides pungency and red colour to the dishes is a rich source of vitamin A, C and E. Recently Russian scientists have identified Vitamin P in green chillies which are considered to be an alkaloid capsaicin which has high medicinal value. It also prevents the heart diseases by dilating blood vessels.

Objectives
- ✓ To get maximum growth and economic yield of chilli find out suitable INM treatment
- ✓ Minimizing the use of chemical fertilizers through the use of organic manure and foliar application of micronutrients on growth and yield of chilli

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 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) [3]. The respondents were recorded and converted in to mean per cent score and constraints were ranked accordingly as per Warde *et al*. (1991) [5].

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 46 per cent, 40 per cent and 14 per cent, respectively and it was increased up to 12 per cent, 39 per cent and 49 per cent after contact with KVK (Table 1). Javat *et al*. (2001) [2]. 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 43 per cent before contact with KVK. After contact with KVK, 51 per cent of the farmers had high level of knowledge regarding scientific cultivation of INM. Godawat (2011) [1]. supported the facts.

Attempts were also made to study and categories the major constraints in to suitable topics *viz.*, new high yielding variety, and seed rate, time of sowing, integrated nutrient management, integrated pest management, plant growth regulator and value addition (Table 4).

Under adoption of chilli production technology, 83.00 per cent farmer's adopted plant growth regulator and 81.00 per cent farmer's adopted value addition. In case of recommended spacing and INM 68.00 per cent and 61.00 per cent adoption was observed from the above discussion.

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

Category	Before contact with KVK	After contact with KVK
Low level of knowledge	46	12
Medium level of knowledge	40	39
High level of knowledge	14	49

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

S. No	Selected scientific innovations	Low	Medium	High
1	Integrated Nutrient Management	10	38	52
2	Pest and disease control	14	44	42
3	IPM	18	43	39
4	Plant growth regulator	4	12	84
5	Recommended spacing	4	31	65
6	Value addition	5	14	81

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

Category	Before contact with KVK(%)	After contact with KVK
Low level of adoption	41	11
Medium level of adoption	43	38
High level of adoption	16	51

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

S. No.	Name of technology	Adoption (%)
1	Integrated Nutrient Management	61
2	Pest and disease control	59
3	IPM	55
4	Plant growth regulator	83
5	Recommended spacing	68
6	Value addition	81

Conclusion

For the above discussion, it can be concluded that knowledge level and adoption level of tribal farmers were amplified after imparting training and conducting FLD by KVK scientists. The FLD conducted on improved scientific cultivation in chilli at farmer's field in Navsari district revealed that the farmer's could improve their economy by practices using value addition. This study draws the attention for extension

workers for effective and efficient transfer of technology in the field of agriculture extension.

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