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RESEARCH NOTE :

FLD on INM: A tool to optimize nutrient use and improvement of brinjal yield

B.M. TANDEL, K.A. SHAH, PRABHU NAYAKA AND C.K. TIMBADIA

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SUMMARY : Front line demonstration (FLD) is one of the most powerful tools for transfer of technology. In order to increase the productivity of brinjal (*Solanum melongena* L.) by adopting improved technologies, several demonstrations with scientific package of practices were conducted by Krishi Vigyan Kendra, Navsari. Since five years about 97 FLD's on INM brinjal 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 49, 38 and 13 per cent, respectively. It was altered upto 08, 50 and 42 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 (17 %). 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.

KEY WORDS :
INM, Brinjal, Management, Nutrient management

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Author for correspondence :
B.M. TANDEL
Krishi Vigyan Kendra, (N.A.U.), NAVSARI (GUJARAT) INDIA

See end of the article for authors' affiliations

A number of agricultural improvement programmes have been introduced in India to increase the agricultural production and income of the farming communities. But the outcomes of these programmes are not satisfactory in terms of achieving higher agricultural production. The most important factor responsible for this poor outcome was lack of understanding of various technological recommendations by the farmers (Singh, 2002). Recognizing the importance of technical recommendation as necessary condition for rural development, more emphasis on farmers training activities has been placed in different five year plans. It is now widely accepted fact that training to farmers increases the technical and allocative efficiencies with the farming business as a whole.

A vegetable plays a very crucial role in human diet. The main vegetable crops grown are onion, chilli brinjal, methi, palak, tomato, cabbage etc. Among these vegetables brinjal is the most popular crop. Brinjal (*Solanum melongena* L.) popularly known as egg plant belongs to family Solanaceae and India is its

centre of origin and diversity (Vavilov, 1931 and Bahaduri, 1951). Nutritionally, brinjal is low energy (30kcal/100g), protein 1.2 % (100 mg) and vitamin C (5mg/100g), but it is very good source of dietry source of fibre, potassium, calcium, magnesium, copper and vitamin B1 (thiamin) Anonymous (2007). In India area under brinjal is 7.13 lakh ha with the production of 129.73 lakh MT. In Gujarat area comprises73065 ha area under production with the productivity of 17.39 kg/ha. The productivity of Navsari district is 21.00 t/ha. There is large scope for increase the productivity.

Nutritionally, brinjal is low energy (30kcal/100g), protein 1.2 per cent (100 mg) and vitamin C (5mg/100g), but it is very good source of dietry source of fibre, potassium, calcium, magnesium, copper and vitamin B 1 (thiamin).

The present study was planned with the following objectives :

– To get maximum growth and economic yield of brinjal, 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 brinjal.

The present study was conducted in Navsari district of south Gujarat state. 18 villages of Navsari district were selected, sample size was 200 farmer's. 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). The respondents were recorded and converted in to mean per cent score and constraints were ranked accordingly as per Warde *et al*. (1991).

Table 1 : Overall knowledge of scientific package of practices of brinjal **(n=200)**

Category	Before contact with KVK	After contact with KVK
Low level of knowledge	49	08
Medium level of knowledge	38	50
High level of knowledge	13	42

Table 2 : Knowledge regarding selected scientific innovations for brinjal cultivation **(n=200)**

Sr. No.	Selected scientific innovations	Low	Medium	High
1.	Integrated nutrient management	9	36	55
2.	Pest and disease control	22	49	29
3.	IPM	21	45	34
4.	Plant growth regulator	5	12	83
5.	Recommended spacing	6	45	69
6.	Value addition	5	14	81

Table 3 : Overall adoption of scientific package of practices of brinjal (Percentage) **(n=200)**

Category	Before contact with KVK (%)	After contact with KVK
Low level of adoption	26	5
Medium level of adoption	57	19
High level of adoption	17	76

Table 4 : Adoption of critical brinjal production technology (%) **(n=200)**

Sr. No.	Name of technology	Adoption (%)
1.	Integrated nutrient management	89
2.	Pest and disease control	82
3.	IPM	64
4.	Plant growth regulator	79
5.	Recommended spacing	54
6.	Value addition	72

The result of overall knowledge of INM indicated that the low, medium and high level of knowledge before contact with KVK was 49 per cent, 38 per cent and 13 per cent, respectively and it was increased upto 8 per cent, 50 per cent and 42 per cent after contact with KVK (Table 1). Javat *et al*. (2011) 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 farmers had medium level of knowledge 57 per cent before contact with KVK. After contact with KVK, 76 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, plant growth regulator and value addition (Table 4).

Under adoption of brinjal production technology, 89.00 per cent farmer's adopted high yielding varieties and more than 80.00 per cent farmers adopted INM and recommended seed rate. In case of plant growth regulator and value adoption 79.00 and 72.00 per cent adoption was observed from the above discussion.

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 INM in brinjal at farmer's field in Navsari district revealed that the farmer's could improve the cultivation practices using INM. This study draws the attention for extension workers for effective and efficient transfer of technology in the field of agriculture extension.

Authors' affiliations :

K.A. SHAH, PRABHU NAYAKA AND C.K. TIMBADIA, Krishi Vigyan Kendra, (N.A.U.), NAVSARI (GUJARAT) INDIA

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