Indian Journal of Extension Education

Vol.46, No. 3 & 4, 2010 (129-131)

Research Note

Effect of Front Line Demonstrations on Yield of Field Pea in Ghazipur District of Uttar Pradesh

A.P. Diwedi[1], V. Diwedi[2], R.P. Singh[3,] Mamta Singh[4] and D.R. Singh[5]

Field Pea (Pisum sativum L.), also called as pois proteagineux in French,guisante in. Spanish, pisello in Italian, futtererbse in German and matter in Hindi, is an important winter season grain legume crop largely confined to cooler temperate zone. These are two types of cultivated pea i.e. garden pea and field pea. Garden peas areharvested in an immature conditions and cooked as fresh or canned for subsequence uses. Field Pea is generally grown for dry seeds which are used for a variety of snack preparation and dal. The mature pea is highly nutritive containing high proportion of digestive protein (22.5%), carbohydrates (62.1 %), fat (1.8%), minerals (calcium, iron) and vitamins (Riboflavin, thiamin etc.). The most probable centre of origin of pea is Mediterranean region of Europe and central Asia.

Field Pea is the third most important crop at global level after dry beans and Chickpea. It is cultivated on 6.51 million ha area with the total production of 10.95 million tonnes. The field peas are distributed in Asia, Africa, Europe, North America, Australlia. China, Russian Fed, Ukraine, India, Ethiopea, France, Canada and USA are the leading field Pea producing countries contributing approximately 75% to the total global production. Indian ranks fifth after Russain Fed., Ukraine, China and Canada. The highest productivity of 4.8 tonnes ha•1 is reported from France. In India, the average productivity of field pea is 906 kg ha. The major field pea growing states are Uttar Pradesh, Madhya Pradesh, Bihar and Maharashtra. Besides these states, it is also cultivated in Delhi, West Bengal, Punjab, Haryana and Himachal Pradesh. In U.P., it is cultivated in 479 (000'ha) area with 502 (000'mt.) production: The area, production and productivity of field pea in district Ghazipur of U.P. are 2214 ha, 3673 metric tonnes and 16.59 q ha. respectively. Front line demonstration (FLD) is introduction by the Indian Council of Agricultural Research, New Delhi with inception of technology mission of pulse and oil seed crops during mid eighties. The field demonstrations conducted under the close supervision of scientist of the KVK. The basic objectives of FLD are to speedy spread of the newly introduced high yielding varieties of pigeon pea and acquaint extension functionaries and local farmers with front line varietals and management technologies.

METHODOLOGY

Front line demonstration on field pea was conducted by Krishi Vigyan Kendra, Post Graduate College, Ghazipur, U.P. with an aim of enhancing the production potential of field pea during the period from 2004-05, 2005-06, 2006-07 and 2007-08 in six villages viz. Sabua, Laxmanpur, Chochakpur, Alipur Bangawan, Mahepur and Permeth of Karanda block of district Ghazipur. The Total 72 number of farmers were associated under this programme. The component demonstration of front line technology in field pea i.e. improved variety Malviya-15, balanced dose of fertilizer(18 kg Nitrogen+46 kg P20s/ ha) and use of Trichoderma @ 5 gm/kg of seed as seed treatment were taken in an area of 0.15 to 0.70 ha of each farmers. The total 20 hectares area was covered in four consecutive years. These demonstrations were conducted at farmers field with local check plot where farmers practices was carried out for comparative study (Table 1). All the production and protection technologies other than interventions were applied in similar manner in demonstrated as well as in farmer's practices. These production and protection technologies are given in the

[1] Subject Matter Specialist - Agronomy, KVK, P.G. College, Ghazipur (U.P.), [2] Programme Coordinator, KVK, P.G. College, Ghazipur (U.P.) [3] Subject Matter Specialist - Plant Protection, KVK, P.G. College, Ghazipur (U.P.), [4] Subject Matter Specialist - Plant breeding and Genetics, RARS, KVK, Sagar (M.P.) [5] Lecturer, Horticulture, P.G. College Ghazipur.

table-2.The yield data were collected from the selected FLD farmers by random crop cutting method and analyzed by using simple statistical tools.

RESULTS AND DISCUSSION

The data given in table revealed that the highest yield in the FLD plot as well as farmers practices was 34.0 q/ha and 20.0 q/ha, respectively during 2007-08 and lowest yield was recorded in 2005-06. This results clearly indicate that due to knowledge and adoption of appropriate varieties i.e. Malviya-15, use of balanced dose of fertilizer (18 kg N and 46 kg P 20 kg S/ha) and seed treatment with Trichoderma @ 5 g / kg of seed, the yield of field pea could be increased by 42.85, 39.0, 65.21 and 70.0 per cent over the yield obtained under farmers practices (use of the non-descriptive local variety, no use of the balanced dose of fertilizer and no control measure adopted for wilt management). The present results are in the close conformity with the findings of Singh et al. (2002).

The FLD produces a significant positive results and provided the researcher an opportunity to demonstrate the productivity potential and profitability of the latest technology(lntervention) under real farming situation, which they have been advocating for long time. This could be circumvent some of the constraints in the existing transfer of technology system in the district Ghazipur of Uttar Pradesh.

Table 1: Differences between technological intervention and farmers practices under FLD on field pea.

SI.No.	Particulars(component)	Technological intervention	Farmers Practices
1.	Variety	Malviya-15	Local
2	Seed treatment	Trichoderma powder @ 5 g/kg of seed	No seed treatment
3	Fertilizer dose	18 kg N and 46 kg P205 per hectare	No use of fertilizer

Table 2: General production and protection technologies applied in the demonstrated and control plots (Farmers practice) at the farmer field.

SI. No.	Particulars	Generate technologies
1	Seed rate	100 kg /ha
2	Sowing method	Line sowing (R x R 25 cm) (PxP 10cm)
3	Situation	Irrigated
4	Soil type	Sandy loam
5	Weed management	Two mechanical weeding, one at 20-25 days after sowing and another at 60-65 days after sowing
6	Plant protection ,	Need based chemical insecticide spray for pod borer .No use of any control measure for wilt management.

Table 3: Increasing the productivity of field pea through front line demonstration.

Year	Under FLD programme		Average yield (q/ha)		Percent increase in the yield over farmers practices
	Total farmers	Total area (ha)	Demonstrated plot (FLD)	Farmers practice	
2004-05	12	05	20.0	14.0	42.85
2005-06	22	05	16.72	12.0	39.0
2006-07	20	05	19.0	11.5	65.21
2007-08	18	05	34.0	20.0	70.0
Total Average	**72**	**20**	**22.43**	**14.375**	**54.265**

CONCLUSION

The FLD programme was effective in changing attitude skill and knowledge of recent technology for high yielding varieties, balanced dose of the fertilizer and biological disease management of field pea including their adoption. This also improved the relationship between farmers and scientist and built confidence between them. The selected farmers of the demonstration acted also as a source of information and pure seeds of wider dissemination of HYV of field pea for the other farmers. The productivity gain under FLD over conventional practices of field pea cultivation created greater awareness and motivated the other farmers to adopt appropriate recent production and protection technologies of field pea in the district. The selection of critical input and participatory approach in planning and conducting the demonstration definitely help in the transfer of technology to the farmers.

REFERENCES

Singh, Atar, Singh, Lakhan and Prasad, R. (2002) . Effect of front line demonstrations on pulses yield during different seasons of yield in U.P .nd. Res.J. of Ext. Edu. 2(2) :64-66.