



Research Note

Performance of quality protein maize (QPM) variety Shaktiman-4 in Muzaffarpur district of Bihar

VIRESH KUMAR, DINESH RAI, AJAY KUMAR AND MRITUNJAY KUMAR

Abstract : To demonstrate the productivity potentials and profitability of maize production technology, FLDs were originated under real farm situations with irrigation through AICRP(Maize) initiatives. It was found that the extent of adoption of farmers towards improved maize production technology, productivity and profitability of maize were significantly improved as an impact of maize FLDs.

Key Words : Front line demonstrations, Maize impact

How to cite this Article: Kumar, Viresh, Rai, Dinesh, Kumar, Ajay and Kumar, Mritunjay (2011). Performance of quality protein maize (QPM) variety Shaktiman-4 in Muzaffarpur district of Bihar, *Internat. J. Forestry & Crop Improv.*, 2 (2) : 215-216.

Article Chronical : Received : 23.08.2011; Accepted : 29.10.2011

India is the fifth largest producer of maize in the world contributing 3 per cent of the global production. Being a potential field crop in India, maize occupies an important place as a source of human food (26%), animal feed (11%), poultry feed (48%), industrial products (12%) and 3% seed. Maize is an important food, fodder and feed crop of Bihar. It is grown throughout the year in all the seasons viz., *Rabi*, *Kharif*, Spring and Summer. It is an important crop of Muzaffarpur district and largely grown under irrigated conditions. Maize plays a vital role in improving the socio-economic conditions of the farming community of Muzaffarpur district. Shaktiman-4 was released in the year 2004. It is high yielding full seasonal maturity and yellow grained variety. It is QPM variety have triptophane and lysine, tolerant to diseases. The average yield of Shaktiman-4 is 90q/ha.

To ascertain the constraints encountered by maize growers of this area, a multidisciplinary team of scientists of AICRP maize carried out a bench mark survey. The results of the survey revealed following facts, (i) majority of the farmers were cultivated local/ composite varieties of maize. (ii) local varieties are less yielding and susceptible to pest and diseases. (iii) maize growers were using higher seed rates i.e. 30kg/ha as they use their own seed for sowing. (iv) planting at a closer spacing within the line resulting in to over plant population and lower yield. Average yield of maize (Local varieties/ composite) is about 40-50q/ha (vi) Market value of the local varieties is less because small size of cob and (vii) farmers were not satisfied with yield as well colour of grain of maize.

Considering the above facts, AICRP(Maize) had initiated the programme of development of high yielding hybrid varieties and tolerant to insect pest. The objective was to popularize high yielding varieties by supplying pure seeds to farmers on regular basis and there by increase the productivity of maize in the Muzaffarpur district. It has been planned to cover at least 25 per cent of the area under maize in the surrounding village with increasing the productivity and profitability /unit area. The training programmes especially on production technology of high yielding hybrid

MEMBERS OF RESEARCH FORUM

Author of the Correspondence :

DINESH RAI, Department of Plant Breeding (AICRP on Maize), Tirhut College of Agriculture, Dhohi, MUZAFFARPUR (BIHAR) INDIA

Address of the Coopted Authors :

VIRESH KUMAR, AJAY KUMAR AND MRITUNJAY KUMAR, Department of Plant Breeding (AICRP on Maize), Tirhut College of Agriculture, Dhohi, MUZAFFARPUR (BIHAR) INDIA

Table 1 : Impact of QPM variety of maize FLDs

Year	Name of the blocks	Variety	Area (Acre)	Yield (q/ha) Demonstration		Yield(q/ha) Local Variety	Increased in yield %
				Highest	Average		
Rabi	Muraul	Shaktiman-4	35	65	60	46	30.43
2008-	Sakra	Shaktiman-4	15	62	58	45	28.17
2009	Motipur	Shaktiman-4	10	70	63	52	21.15
	Mushahari	Shaktiman-4	05	58	55	46	18.27
	Piyar	Shaktiman-4	08	63	59	47	25.53
	Bochaha	Shaktiman-4	04	61	57	50	14.00
	Gayghat	Shaktiman-4	04	58	57	48	18.75
	Turki	Shaktiman-4	05	60	55	42	30.95

Table 2 : Extent of adoption recommended package of practices of maize crop before FLDs and after FLDs

Practices	Before FLDs		After FLDs	
	No.	Per cent	No.	Per cent
Improved varieties	35	40	77	89
Seed rate	32	37	64	74
Seed treatment	18	20	61	70
Spacing	17	19	56	65
Time of sowing	14	16	45	52
Recommended dose of fertilizers	31	36	80	92
Irrigation	40	46	71	82
Weed control	37	42	66	76
Disease control	42	48	68	78

variety of maize were organized. 86 field demonstrations of high yielding variety of maize were also conducted on farmers field to show them production potentialities. Field demonstration were conducted on instructional farm to screen the best varieties supplied by Rajendra Agricultural University. Field day (10No.) were organized to demonstration plots at farmers field. This had created awareness amongst farmers about the use of high yielding varieties of maize instead of local one. The technologies were transferred to the farmers fields in the different villages of district.

The data presented in Table 1 and 2 showed that the yield of maize after FLDs was increased 14-30 per cent as compared to prior conditions with increased rate of adoption in technologies tried to a greater extent.

Impact of the programme:

- Successfully introduced HYV of maize viz., Shaktiman-4 in the area.
- About 200ha of land was covered under maize replacing local varieties.
- Average yield maize per unit area was increased.

- Reduction in cost of cultivation by 10 per cent by means of reduction in seed rate and maintenance of optimum plant population.
- Farmers get more yield and profit from the per unit area because improved varieties with higher grain qualities.

This resulted in increase in area under HYVs at faster rate. This in turn will changing socio-economic status of the farmers of this area. Thus by replacing local varieties, farmers getting higher production and in come too.

REFERENCES

- Kar, A.K. and Sahoo, S.C. (2002). Effect of soaking the seed in water and treating with fungicides on the plant stand and yield of maize (*Zea mays* L.). *J. Indian Agric. & Weed Sci.*, **2** (1) : 37-38.
- Olsen, J.K., McMahan, C.R. and Hammer, G.L. (1993). Prediction of sweet corn phenology in subtropical environment. *Agron. J.*, **85** (2) : 410-415.
