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RESEARCH ARTICLE

EVALUATION AND ANALYSIS OF YIELD, PERFORMANCE AND ADOPTION OF BLACKGRAM (*Vigna mungo* L) VARIETY PU-31 IN MUZAFFARNAGAR DISTRICT

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ABSTRACT

The urd bean variety Pant Urd-31 was spreaded through Cluster Frontline Demonstration at farmers field in Muzaffarnagar district. The demonstrations conducted during last two years (2015 and 2016) under National Food Security Mission(NFSM), were considered for the study. The results indicate that adoption of this variety significantly increased due to higher productivity, more net return and resistant for YMV

INTRODUCTION

India is one of the major pulse producing country in the world which shares 30-35% and 27-28% of the total area and production of pulses respectively. The increase in pulse production has been only marginal when compared with wheat and rice. With the rapid increase of the Indian population the availability of pulses has gone down from 30 gm/capita/day during 2002 to 26 gm/capita/day at present time. Pulses are important constituent of Indian diet for supply part of protein and essential amino acids and maintain soil fertility through symbiotic N fixing bacteria and organic carbon. It maintain the normal growth, development and health of humankind. To fulfill our future requirement it is must to follow the scientific production of pulses. In district Muzaffarnagar of UP total area of under Urd is about 1174 ha, production and productivity 14400 qt and 4.38 qt/ha respectively. In this district largest area of agricultural land occupied by sugarcane crop, so various types of biotic, abiotic and socioeconomic problems developed. In this district some local varieties of urd bean are susceptible to yellow mosaic virus(YMV) and losses about 70-75%. Keeping above in mind the present study was undertaken to evaluate the urd bean variety Pant Urd 31 with different

locations of district for enhancement of Area, Production and Productivity and minimize yellow mosaic virus.

MATERIALS AND METHODS

The Cluster Frontline Demonstrations(CFLDs) were conducted during 2015 and 2016 under National Food Security Mission (NFSM) in Baghra, Charthawal, Shahpur and Budhana blocks of district Muzaffarnagar at 90 locations of farmers field (32 ha) for evaluation of performance of Pant Urd 31 in terms of yield, adoption and resistant against yellow mosaic virus with comparison to farmers practice. The yield data from frontline demonstrations as well as farmers practice were recorded by representative samples from different locations.

The following formulae have been used for estimation of technology, extension gap and technology gap.

- Technology Gap= Potential Yield – Demonstration Yield
- Extension Gap= Demonstration yield-Farmers Yield.
- Technology Index= Potential Yield-Demonstration Yield/Potential yield X100

RESULTS AND DISCUSSION

The potential and field performance of the Pant Urd 31 alongwith the local check were evaluated and data are given in Table 1.

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Table 1.

Name of Blocks	No. of Demonstration	Duration Study of (Years)	Avg. Yield (Qt/ha)			% Increased Yield	Technology gap	Extension gap	CB Ratio		Adoption % 02 year	Technological Index
			P	IP	FP				IP	FP		
Baghra	25	02	15	12.05	8.25	46.06	2.95	3.8	1:2.41	1:1.65	12.35	16.66
Charthawal	25	02	15	12.25	8.5	44.12	2.75	3.75	1:2.45	1:1.70	12.10	18.33
Shahpur	20	02	15	11.70	7.95	47.17	3.3	3.75	1:2.34	1:1.59	12.21	22.00
Budhana	20	02	15	11.95	8.2	45.73	3.05	3.75	1:2.39	1:1.64	10.50	20.33
Mean			15	11.98	8.22	45.77	3.02	3.76	1:2.40	1:1.64	11.79	20.13

P= Potential Yield, IP= Improved Practice, FP= Farmers Practice

From the data shown in table-1 it is quite clear that seed yield increased significantly in the range of 11.70 to 12.25 qt/ha in different blocks of district Muzaffarnagar as compared to local check where yield were 7.95 to 8.5 qt/ha. Singh and Rana (2006) reported that seed yield increases up to 20.70 qt/ha by Pusa Barani variety of mustard crop under irrigation condition. Pandey et al. (2000) also reported growth pattern in relation to yield in mung bean. The cost benefit ratio of Pant Urd 31 was also higher in all blocks in comparison to local check. It varied from 1:2.34 to 1:2.45 compared with local check which varied from 1:1.59 to 1:1.64. Hedge et al (2006) reported that mustard crop by nature is hardy and mostly grown under rainfed condition and can impart stability of production system under harsh condition.

The adoption of PU 31 has significant impact on seed yield and yield gap. Yield increased in demonstration field due to adoption of newly released variety. Adoption percentage ranged between 10.5% to 12.35% with a mean percent increase of 11.79% as compared to local check. Rana et al (2002) reported that the demonstration are quite successful in farmers practice. The result obtained clearly indicate the technology gap with an overall mean difference of 3.76 qt/ha. Kadian et al (1997) reported that technology gap can be narrowed down only by location specific technology based recommendations. The 90 Frontline demonstrations conducted at farmers field during 2015 and 2016 resulted in average net return of Rs. 27920.00/ha in comparison to other local varieties which gave average net return of Rs. 12880.00/ha. The higher cost benefit ratio of PU 31 led to higher adoption and which two years this variety has spread on 2000 ha area. The variety PU 31 fast replacing T-9 and other local varieties. The demand of quality seed of this variety is also increasing which has led to participatory seed production at farmers field.

REFERENCES

- Rana, V.S., Malik, A.C. and Midha, L.K. 2002. Evaluating gap in transfer of dry land technology in mustard frontline demonstrations in Haryana. *J. Agron.*, 18(1and2):1148-1149.
- Singh, T. and Rana, K.S. 2006. Effect of moisture conservation and fertility on Indian mustard (*Brassica juncea*) and Lentil (*Lens culinaris*) intercropping system in rainfed condition. *Ind. J. Agron.*, 51(4):267-270.
- Kadian, K.S., Sharma, R. and Sharma, A.K. 1997. Evaluation of frontline demonstration trial on oilseed in Kangra Vally of H.P. *Annals of Agril. Res.* 18(10): 40-43.
- Hedge, D.M. 2006. Oilseed crop diversification In: Extended summaries of National Symposium on Conservation agricultural and environment. Oct. 26-28, 2006 held at BHU, Varanasi.
- Samui, S.K., Maitra, S., Roy, K., Mondal, A.K. and Saha, D., 2000. Evaluation of frontline demonstrations on groundnut (*Arachis hypogea* L). *J. of Indian Society of Coastal Agriculture Research.* 18(2): 180-183.
- Sagar, R.L. and Chandra, G. 2004. Evaluation on frontline demonstration on mustard in Sundarbans, W.B. *Indian Journal of Extension Education.* 40(3and4): 96-97.
- Pandey, A.K. and Singh, S.P. 2000. Growth pattern in relation to yield in mung bean (*Vigna radiata* L). *Indian Journal of Genetics and Plant Breeding.* 60(2):237-238.
- Malik, MFA, Awan, SI and Shahid Niaz. 2008. Comparative study of quantitative traits and association of yield and its components in Black gram (*Vigna mungo*) genotypes. *Asian Journal of Plant Science*, 7(1):26-29.
