*Original Research Article**Short Research Article*

Role of minikit demonstrations in improvement of Bengalgram production in Anantapuramu district of Andhra Pradesh, India

ABSTARCT

The study on the effects of minikit demonstration on Bengal gram was conducted by DAATT Centre, Anantapuramu, in five locations with 20 farmers during the rabi seasons of 2015-18. The results revealed that the minikit variety NBeG – 452 recorded highest average yield, 1530 kg/ha, and cControl variety JG -11 recorded average yield, 1150 kg/ha, respectively. The same trend was found in case of income, which was Rs. 76,500/ha and Rs.57,500/ha respectively. Cost-benefit ratio for demonstration and control was 3.82 and 2.85, respectively. It can be concluded that the Bengal gram production and area could be improved by encouraging the farmers through demonstrations on large area and training programs.

Key words: Bengal gram, Minikits, Anantapuramu, Demonstrations and DAATT center

Introduction

If Andhra Pradesh state has observed in Bengal gram cultivation of last decade it can be termed as the Bengal gram revolution. Bengal gram is the most important Rabi pulse crop in Andhra Pradesh mainly sown in October – November and harvested in February. In Andhra Pradesh, Bengal gram is cultivated in an area of 4.0 - 5.0 lakh hectares annually. Crop duration is 90 – 100 days depending on the variety. Bengal gram is a pulse crop which usually grown in cold weather. It is grown as a rabi crop in tropical zone and as summer crop in temperate zone. It will give good yields in cool climate with good sufficient sunlight. The area under Bengal gram has increased from 1,20,000hectares in 1997-98 to 6,38,000 hectares by 2007-08. However, more important than this is the increased productivity of Bengal gram. Bengal gram productivity has

increased from 750 kgs to 1448 kgs. This could be possible through high yielding varieties, improved varieties and adoption of best management practices.

Bengal gram is the major rabi crop in Anantapuramu district with 80,000 hectares. So, it is necessary to introduce new varieties in Anantapuramu, the suitability of new technologies were tested through Minikit trails.The demonstrations like minikts, plays a major role to determine the suitability of new variety to a particular locality.Minikit demonstration is the main intervention of DAATT CentereCenter to determine the suitability of new variety to a given locality under farmer's condition. Minikits also known as adoptive trails which is small sized observation plots are laid out simultaneously in a wide geographical area comprised of several agro climatic zones. The results of this study would provide scope for researchers and extension agents to further improvement of area and production of Bengal gram in Anantapuramu district as well as Andhra Pradesh state.

Materials and Methods

The present research study was conducted during the rabi season fromthe years 2015-16 to 2017-18 by DAATT Center in Anantapuramu district of Andhra Pradesh. Fourvillages namely Raketla, S. Timmapuram, Ganjikuntla andPeddakoukuntla were selected purposely based on highest area under Bengal gram cultivation in that villages. A total of 20 farmers were selectedbased on their innovativeness, progressive and activeness in adoption of latest technologies with the help of department officials, DLCC members and direct observation while during field visits and other interactive meetings. All 20 demonstrations were conducted for three consecutive years in the farmer fields with a main objective of assessing the suitability and performance of new Bengal gram varietyunder the farmer field condition. The high yielding Bengal fram gram variety NBeG – 452 was used as a demo and JG-11 Used as control.

Table 1. Characteristics of Bengal gram varieties selected for experiment.

Variety	Variety release year	Duration (Days)	Yield (Q/acre)	Characteristics

JG -11	1999	95-100	7-8	Resistance to Fusariam wilt
NBeG - 452	2020	95-100	10-12	Resistance to wilt

Results and Discussion

Yield:

Minikit demonstrations on Bengal gram were conducted by using variety NBeG – 452 in 20 farmers' fields covering with four villages of Ananatapuramu district. The results in table 2 revealed that average highest yield 1530 kg/ha found in demo variety i.e.NBeG – 452 followed by 1150 kg/ha in control JG – 11 variety

Income:

The data presented in Table2 revealed that in case of demo variety the gross and net returns, was Rs. 76,500/- and 56,500/- and whereas in case of control variety it was observed asRs. 57,500/- and Rs.37,500/- ha, respectively, which is lower than the demo variety. Benefit cost ratio for demonstration and control was 3.82 and 2.85 respectively.

Overall Impact of Demonstration:

About 24.83 percentage increased yield and 33.62 percentage increased net returns was observed in demo variety as compared to control variety. The reason for above trend might be the demo variety NBeG - 452 has shown increased yield as compare to control variety JG-11.

Table 2. Details of yield and economics of minikit demonstration on Chickpea

Variety	Yield (kg/ha)	Cost of Cultivation (Rs./ha)	Gross returns (Rs./ha)	Net returns (Rs./ha)	B:C ration (Rs./ha)
NBeG– 452 (Demo)	1530	20000	76,500	56,500	3.82
JG-11 (Control)	1150	20000	57,500	37,500	2.85

Conclusion:

Minikit demonstration on Bengal gram clearly indicated that there was 24.83 per cent increase in yield observed in demo variety over farmer's practice. It was observed

<mark>that potential yield can be achieved</mark> by providing suitable high yielding varieties. Further dissemination of these varieties on large area can be achieved by the successful implementation of front line demonstrations, training programs, exposure visits, field days and showing success stories to the farmers.

References

1. Ahirwar, R. (2011). A study of training needs of chickpea growers in Khurai block of Sagar district, (M.P.). M.Sc. (Ag.) Thesis, Jawaharlal Nehru KrishiVishwaVidyalaya, Jabalpur, M.P. (INDIA).

2. Chauhan, N.M. Impact and yield gap analysis of trainings and FLDs regarding scientific practices of chick pea (Cicer arietinum). International J. Ext. Edu., 2012, 8: 44-47.

3. MeenaLokesh Kumar, Bairwa Shoji Lal, LakraKerobim and SirohiyaLokesh. Analysis of the profile on participating and non-participating farmers in chickpea production technology. Agric. Update, 2014, 9(1): 31-36.

4. Moulasab, D.M. Chandargi and Satihal, D.G. 2019. Preferential Characteristics of JG-11 Bengal Gram Variety as Experienced By Farmers of Yadgir District, Karnataka, India. Int.J.Curr.Microbiol.App.Sci. 8(03): 1774-1779.

5. Kumar, P.G., Jyothsna, M.K and Reddy, P.L. 2013. Knowledge and extent of adoption of improved practices of chickpea through KVK interventions. Journal of Research ANGRAU. 41(3):58-63.

6. RupeshKhedkar,Vijay Shinde and PawanChaudhari. 2017. Role of Cluster Frontline Demonstrations in Enhancement of Chickpea Production. J KrishiVigyan 2017, 6(1) : 172-174.