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Introduction of new bengalgram variety NBeG-47 in Koppal district

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Abstract

Chickpea variety NBeG-47 was introduced in Koppal district of Karnataka state. NBeG-47 was found to tolerate fusarium wilt and recorded 9.09 per cent of wilt against 13.52 in check variety JG-11. The variety also recorded highest yield of 17.9 q/ha which was 29.32 per cent higher than the check variety JG-11 with highest cost benefit ratio of 3.64.

Keywords: NBeG-47, wilt tolerance, chickpea

Introduction

India is the largest producer, consumer and importer of pulses. Pulses are a good and chief source of protein for a majority of the population in India. Protein malnutrition is prevalent among men, women and children in India. Pulses contribute 11 per cent of the total intake of proteins in India (Reddy, 2010) [1]. Among the pulses, chickpea is the premier pulse crop widely consumed in India. It is an important rabi season food legume having extensive geographical distribution and contributing 39 per cent to the total production of pulse in the country (Singh *et al.*, 2013) [2]. It is a good source of protein, carbohydrate, fat, minerals and vitamins. It is an excellent animal feed. Its straw also had good forage value. The major chickpea producing states are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra, Andhra Pradesh, Gujrat, Haryana, Bihar, West Bengal and Karnataka.

The chickpea variety, NBeG 47, is the first machine harvestable variety released in Andhra Pradesh suitable for the state's variable climate. Due to shortage of labors and its disease tolerance nature the variety was introduced in to Karnataka through front line demonstrations by Extension Education Center, Koppal. Currently chickpea farming in Karnataka is partially mechanized – the crop is cut manually and then fed into a threshing machine. In order to encourage complete mechanization of harvesting which is cost effective and quicker, reducing the risk of the ripened crop's exposure to untimely rain or other extreme weather conditions the variety NBeG-47 was introduced to farmers of Koppal area. better for the health of the laborers, especially women, as handling the crop causes painful dermatitis due to its high acid content.

Material and Methods

The demonstration was carried out on farmer's field in adopted Village of Agricultural Extension Education Center, Koppal (Karnataka) during Rabi season, Ten progressive farmers were selected and were provided seeds of NBeG-47 and JG-11 for one acre area each. Cultivation practices were followed as per the package of practices recommended for the Zone -3 by UAS, Raichur.

The crop was sown during the II fortnight of October at a spacing of 30 x10 cm. Fertilizer NP @ 10 & 20 kg/ha in the form of DAP was applied as basal dose. In each plot, three rows, each 10 m long, were chosen arbitrarily. Plants in each row were examined and the number of plants showing symptoms of yellowing or wilting vascular noted. Disease incidence is expressed as the percentage of affected plants, counted in three rows by the total number of plants. Per cent disease incidence in each treatment was calculated using the following formula.

$$\text{Per cent wilt incidence} = \frac{\text{Number of plants wilted} \times 100}{\text{Total number of plants examined}}$$

The yield data were collected from both the demonstration and farmer's practice and converted into hectare basis.

Results and discussion

The results clearly revealed NBeG-47 is tolerant to fusarium wilt by recording lowest per cent incidence of 9.09 as against 13.52 in check variety JG-11 (Table 1). The variety also recorded highest yield of 17.9 q/ha which was 29.32 per cent higher than the check variety. Highest cost benefit ratio of 3.64 was recorded in demo plot (Table 2).

It is concluded that front line demonstration was effective in changing attitude, skill and knowledge of latest production technology viz., HYV, seed treatment with fungicide and biofertilizer, balance dose of fertilizer, timely sowing and insect pest and disease management of chickpea. This also improved the relationship between farmers and scientist and built confidence between them. The selected FLD farmers acted also as a source of information for popularizing recent technology of chickpea cultivation and pure seeds for wider dissemination of HYV of chickpea for other farmers.

Table 1: Performance of new variety NBeG-47 over JG-11

| Sl. No. | Fusarium Wilt (%) NBeG- 47 | Fusarium Wilt (%) JG - 11 | Yield (q/ha) | Yield (q/ha) | Per cent increase of yield over control |
|---------|-------------------------------|------------------------------|--------------|--------------|--|
| 1 | 9.09 | 13.52 | 17.20 | 13.30 | 29.32 |

Table 2: Cost economics of NBeG-47 over JG-11

| Sl. No | Cost of cultivation (Rs.) | Gross returns (Rs.) | Net returns (Rs.) | B:C ratio |
|-----------|---------------------------|---------------------|-------------------|-----------|
| NBeG - 47 | 22100 | 80550 | 58450 | 3.64 |
| JG - 11 | 21300 | 65250 | 43950 | 3.06 |

Price of bengalgram RS. 4500/q

References

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