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RLB Chana Kabuli 1: A Chickpea Variety for Southern India

Kabuli chickpea variety 'RLB Chana Kabuli 1', is a new variety of chickpea (*Cicer arietinum* L.) developed by Rani Lakshmi Bai Central Agricultural University, Jhansi which is notified for cultivation in the South Zone. In multi-locational trials of ICAR-All India Coordinated Research Project (AICRP) on Chickpea for three years, it recorded an average grain yield of 15.49q/ha which was higher than the checks. The variety RLB Chana Kabuli 1 (RLBGK 1) has shown resistance against fusarium wilt, moderate resistance against dry root rot and stunt disease at different zones.

INTRODUCTION

Chickpea is a valued crop and provides nutritious food for an expanding world population and is becoming increasingly important with climate change. The nutritional value of chickpea is well known around the world. To meet the growing demand for chickpea (desi and kabuli) because of its high protein content, scientists have developed several new varieties of desi and kabuli chickpea that are contributing to greater nutritional security, health and climate resilience and are replacing existing obsolete varieties. In India, development and adoption of new varieties having early maturity, suitability to machine harvesting, resistance against major diseases and farmers' preferred traits like extra-large/large seed size of kabuli and green seeded desi have contributed towards spectacular increase in production of chickpea during last one decade. This is evident from the fact that during 2020-21, chickpea production has been estimated to be about 12.61 million tons (3rd Advance Estimate, DAC & FW, GoI) which is about 49.29% of the total pulses production (25.58 million tons). During the last one decade, India has emerged as a zero importer of kabuli chickpea and has started exporting it. The areas in central and southern states have also increased by about 3.5 million ha

in the past 15 years. The collaborative efforts of Indian NARES with CGIAR Institutes resulted in release of more than 50 high yielding varieties of chickpea and many of these are in seed chain. The crop improvement efforts targeting development of early maturing varieties paved the way for increase in area and productivity of chickpea in central and southern India. During last decade, chickpea production increased about 6 times (from 1.29 million tons to 8.25 million tons) in central and southern India due to a threefold (2.43 million ha to 7.8 million ha) increase in area and doubling of productivity (530 kg/ha to 1058 kg/ha). Central and southern India is emerging as a major player in chickpea cultivation as during 2018 this region, contributed about 48% to the total global chickpea production and sharing more than 73% of the total chickpea production in India. Chickpea improvement research is majorly focussed for development of chickpea as a nutritious pulse crop, climate resilience, expansion and adaptability to new regions (Samineni and Gaur, 2020).

Kabuli chickpea variety 'RLB Chana Kabuli 1', is a new variety of chickpea (*Cicer arietinum* L.) that has been developed under the ambit of ICAR-All India Coordinated Research Project (AICRP) on Chickpea at Rani Lakshmi Bai Central Agricultural University, Jhansi. This variety has been identified by the Varietal Identification Committee (VIC) during Annual Group Meet of the AICRP on Chickpea held on October 1, 2020. Subsequently, based on the approval of VIC, this variety was released and notified vide Notification No. S.O. No. 500 (E), dated 29th January, 2021 by the Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Agricultural Crops (CVRC) in its 86th meeting held on 15th March, 2021. The variety is suitable for commercial cultivation under irrigated and timely sown conditions of South Zone (SZ) comprising Andhra Pradesh, Telangana, Karnataka, Tamil Nadu and parts of Odisha (http://seednet.gov.in/material/csc.aspx).

'RLB Chana Kabuli 1' is derived from a cross between JGK 1 and ICCV 95333 following standard pedigree selection method. The developed variety was evaluated for three years (2017-18 to 2019-20) under coordinated yield trials along with three check varieties. It recorded an average grain yield of 15.49 q/ha (Mean of 10 trials over three years) which was 41.3, 9.3, 9.7% higher than the checks *viz.,* MNK 1, KAK 2 and NBeG 119, respectively. It also recorded 5.4 and 4.7 per cent increase in grain yield over the qualifying varieties RLBGK 2 (14.7 q/ha) and GLK14306 (14.8 q/ha), respectively establishing its distinct superiority. In agronomical trials, this variety registered advantage for grain yield (16.70 q/ha) over check MNK 1 (13.61 q/ha) and qualifying variety GLK 14306 (14.32 kg/ha). The plant type of the variety is semi erect with an average plant height of about 60 cm. Its distinguished morphological characteristics include compound light green leaves with medium sized leaflet and single white flower. The pod size is medium with attractive beige coloured angular seed (36 g 100-seed weight) having smooth testa structure. The pod bearing is on all the branches. The variety matures in about 100 days and has about 16.86 % seed protein content. The variety RLB Chana Kabuli 1 (RLBGK 1) has shown resistance against fusarium wilt, moderate resistance against dry root rot and stunt disease at different zones.

CONCLUSION

The variety "RLB Kabuli Chana 1" will easily be adopted by the cultivators of southern India as variety has high seed yield, resistance against major diseases and large seeds.

REFRENCES

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