

Agritech

Rhizosphere Microbiome Engineering of Chickpea for Drought Tolerance: Development of Seed Priming Delivery System

APPLICATION

The unique strategy of optimizing the rhizosphere to limit crop productivity can help overcome productivity limits in drought-prone areas and can be aid in other crops & soil health management.

COMPANY NAME

Sri Bioaesthetics Pvt Ltd

TECHNOLOGY READINESS LEVEL (TRL)

TRL: 6 (Field optimization completed)

INTELECTUAL PROPERTY

Filing in progress

FOUNDERS' NAME

KRK Reddy

PROBLEM ADDRESSED

Indians rely heavily on chickpea (*Cicer arietinum*) as a protein source. Chickpea yields are reduced by more than half due to terminal drought stress. It interferes with critical physiological and biochemical activities such as photosynthesis, CO₂ availability, cell development, respiration, stomatal conductance, and other cellular metabolisms. Furthermore, drought stress in chickpea causes the plant to become physiologically weak and sensitive to disease assault, resulting in either plant mortality or yield loss. As a result, it is proposed to create a seed priming microbial delivery system based on local isolates with specialized activities for reducing drought stress in chickpea.

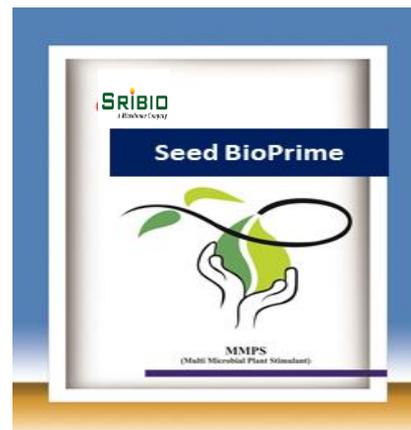
ABOUT THE TECHNOLOGY

The unique approach centered on designing (assembly) well-characterized bacterial strains as a delivery system to prime the seeds in order to optimize the rhizosphere microbiome to endure drought stress conditions throughout the chickpea life cycle. Because the suggested seed priming delivery system has the potential to significantly increase chickpea crop productivity under severe climatic circumstances, the technology platform can be applied to other crops.

FUNDS RAISED/ACHIEVEMENTS

- BIRAC BIG Grant worth INR 49.25 lakhs

PRODUCT IMAGE



USP

- Rhizosphere optimization through microbiome engineering
- The essential microbial components in delivery system used for seed priming
- Approach is novel, user-friendly, and prophylactic
- The technology platform can be applied for other crops too

END USERS/CUSTOMERS

- Agri-input dealers or distributors.
- B2B with seed companies & other corporates