Rhizogold: A Multi-Strain Biofertilizer for Production of Legumes



43

INNOVATIONS CATALOGUE

Zahir A. Zahir, Hafiz Naeem Asghar and Muhammad Naveed

Soil Microbiology & Biochemistry, Institute of Soil & Environmental Sciences, University of Agriculture, Faisalabad



Rhizogold is a multi-strain biofertilizer developed from the competent strains of rhizobia and PGPR containing ACC-deaminase. This is the only biofertilizer in Pakistan which has been developed by the combined use of Rhizobia and PGPR containing ACC-deaminase.

These strains were isolated from specific

legumes, characterized and identified in the Soil Microbiology and Biochemistry Lab., Institute of Soil and Environmental Sciences. The competency of Rhizogold has been established by conducting field trials at various locations in the Punjab.

Rhizogold improves the growth, nodulation and yield of legumes through several traits like reduction of ethylene by ACC-deaminase activity, phosphate solublization, root colonization, hormone production and pathogen suppression. Thus, Rhizogold improves growth, nodulation and yield of its specific legume crop.



Why use Rhizogold?

Legumes in Pakistan are grown on marginal lands and in rainfed areas which result in poor yields. Under arid and semi-arid conditions, the nodulation of the legumes is poor because of a number of biotic and abiotic stresses. Each legume has its specific Rhizogold: Rhizogold-Mung for mung bean, Rhizogold-Gram for gram and Rhizogold-Lentil for lentil etc.



Un-inoculated control

LC3xLLR3

Rhizogold increases the yield of its respective legume up to 15-20% even on marginal lands. This would also reduce the use of chemical fertilizers and thus significantly save the farmer's input expenses. Farmer can get significant additional income by spending a small amount on the use of Rhizogold and the use of chemical fertilizers will be reduced. Also, the use of pesticides may be reduced, thus decreasing the deterioration of the environment and reducing the input price as well. Rhizogold also improves the protein contents of legumes. Rhizogold is a quality product which contain 10⁸ to 10⁹ cells of bacterial strain per gram and its application method is seed coating.





Average yield of 10 farmers' field trials of Mung bean







Acknowledgment

We are thankful to the ALP/PARC for providing financial support for the development of Rhizogold

Average yield of 10 farmers' field trial of lentil

