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“Intergeneric Microbial Coaggregates”- Bioinoculation effect of different bioformulations of PGPR cells on the enhancement of plant growth stimulation and biocontrol against *Sclerotium rolfsii* in rainfed groundnut (*Arachis hypogaea*)

T. Srinivasan^{1*}, A.M. Chitra¹ and C. Sekar²

1. Department of Microbiology, Faculty of Science, Annamalai University, Chidambaram, Tamil Nadu-608002, **INDIA**
2. Department of Microbiology, Faculty of Agriculture, Annamalai University, Chidambaram, Tamil Nadu- 608002, **INDIA**

Email: sriniv86@gmail.com

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ABSTRACT

The bioinoculation effect of different bioformulations viz., single strain application, coinoculation and cofloc application, of PGPR cells viz., Methylobacterium and Rhizobium, on the enhancement of plant growth stimulation and biocontrol against Sclerotium rolfsii in rainfed groundnut was studied under in vitro condition. It was observed that the application effect of different bioformulations of Methylobacterium and Rhizobium augmented the plant growth stimulation namely, plant height, dry weight, chlorophyll content, leghaemoglobin content, nodulation, seed yield and reduced the incidence of Sclerotium rolfsii to a higher level when compared to control. Between the two single strain application, the application of Rhizobium cells recorded the higher values for PGPR characteristics and biocontrol against Sclerotium rolfsii than Methylobacterium cell application. Among the different bioformulations, the application of PGPR cells viz., Methylobacterium and Rhizobium coflocs enhanced the above said parameters to the highest level followed by coinoculation of PGPR strains and single strain application PGPR cells. It was concluded that the application of PGPR cells viz., Methylobacterium and Rhizobium, as coflocs, augmented the PGPR characteristics and bio control against the Sclerotium rolfsii to a higher level in rainfed groundnut when compared to other bioformulations.

Keywords: PGPR, Rainfed Groundnut, Microbial Cofloc, Biocontrol, *Sclerotium rolfsii*