International Journal of Medical Sciences & Pharmaceutical Research, Volume1, Issue1, Jan-Jun-2017, pp 15-24,

EVALUATION OF NEW MICROBIAL CONSORTIUM THROUGH BIOFERTIGATION FOR PRECISION FARMING OF BHENDI (COBH 1)

Jeya Bharathi
Assistant Professor, Microbiology, Plant Pathology Unit, Tamil Nadu Rice Research Institute, Aduthurai -62101. Tamil Nadu, India.

D. Balachander,
Professor, Dept. of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbatore 3, Tamil Nadu, India

K. Kumar
Professor Dept. of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbatore 3, Tamil Nadu, India

R. Narayanan
Professor (Retired), Dept. of Agricultural Microbiology, Tamil Nadu Agricultural University, Coimbatore 3, Tamil Nadu, India

ABSTRACT

Use of carrier based inoculum for crop growth and yield is wide practice among the conventional agriculture. Precision farming is a site specific management approach whereas the conventional practice is a uniform fertilizer application. Carrier based inoculum is not suitable for precision farming system due to clogging effect. Hence the liquid microbial consortium was developed using three inoculants *viz*., *Azospirillum brasilense sp 7*, *Bacillus megaterium var. phosphaticum* and *Pseudomonas fluorescens* with suitable cell protectants of 15% glycerol. We conducted a field trail experiment to study the effect of biofertigation on plant growth under precision farming system in bhendi (COBH 1). The result suggested the positive influence of 75% RDF of NPK + Microbial consortium application with single time (60 lit/ha) on delivery of inoculants viz., *Azospirillum* (5.96 ± 0.12 log cells/ml), *Bacillus* (7.00 ± 0.12 ml log cells/ml) and *Pseudomonas (*7.30 ± 0.02 log cells/ml), plant growth and 10% increased yield over conventional method

Keywords: Microbial consortium, biofertigation, delivery of inoculants, precision farming system

Abbreviations

RDF: Recommended dose of NPK fertilizers