



Research Paper

Article history :

Received : 18.02.2013

Revised : 30.08.2013

Accepted : 15.09.2013

Effect of bio-fertilizers on biological nitrogen fixation of banana cv. GIANT CAVENDISH

■ SANTOSH KUMAR¹, K.A. PATHAK², K. KISHORE³, R. SHUKLA, S.S. SOLANKEY AND D.K. SINGH⁴

Members of the Research Forum

Associated Authors:

¹ICAR-Regional Centre-NEH, Mizoram Centre, KOLASIB (MIZORAM) INDIA

²ICAR-RC for NEH, Sikkim Centre, GANGTOK (SIKKIM) INDIA

³Krisi Vigyan Kendra, MAMIT (MIZORAM) INDIA

⁴Department of Genetics and Plant Breeding, Institute of Agricultural Sciences, Banaras Hindu University, VARANASI (U.P.) INDIA

Author for correspondence :

S.S. SOLANKEY

Department of Horticulture, Bihar Agricultural College, Bihar Agricultural University, Sabour, BHAGALPUR (BIHAR) INDIA
Email : shashank.hort@gmail.com

ABSTRACT : The effect of bio-fertilizer was studied in banana accessions intensively collected from ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram during 2009-2010. To assess the efficacy of different bio-fertilizer viz., *Azospirillum*, *Azotobacter* and phosphorus solubilizing bacteria (PSB) either alone or in combination was applied 20g per plant with recommended dose of FYM. The six treatments were arranged in a Randomized Block Design in three replications and spaced at 2.5 × 2.5 m in order to study its effect on growth, yield and quality attributing traits. All the characters were significantly increased except number of suckers and number of leaves due to application of each of the two-bio fertilizers either separately or in combination. Moreover in combination of *Azotobacter* + PSB 20g per plant showed that more effective than either combination or in separately of another bio-fertilizers. This might be due to because biological nitrogen fixation depends appreciably on the available form of phosphorus. So the combined inoculation of nitrogen fixers and PSB may benefit the plant better (by providing both nitrogen as well as phosphorus) than either alone.

KEY WORDS : Bio- fertilizer, Nitrogen fixation, *Azospirillum*, *Azotobacter*, PSB, Banana,

HOW TO CITE THIS ARTICLE : Kumar, Santosh, Pathak, K.A., Kishore, K., Shukla, R., Solankey, S.S. and Singh, D.K. (2013). Effect of bio-fertilizers on biological nitrogen fixation of banana cv. GIANT CAVENDISH. *Asian J. Hort.*, 8(2) : 436-439.