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# Strategies for promoting bio-fertilizers among the farmers for sustainable agriculture

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## ABSTRACT

**Bio-fertilizers are fertilizers containing living microorganisms, which increase microbial activity in the soil. This study was conducted at randomly selected five villages of Erode district of Tamil Nadu. 100 per cent awareness of bio-fertilizers was found in that area but awareness on crop specific usage of bio-fertilizers was only 19 per cent. The main source of information about bio-fertilizers was the shop owners (46 per cent) and Agriculture Officers (29 per cent). Usage level of bio fertilizers was 60 per cent and the main reason for using bio fertilizers were to restore the soil fertility (34 per cent) and increase crop yield (32 per cent). Reason for not using these bio fertilizers was unaware of usage method of bio fertilizers (80 per cent). So, a step has to be taken to educate the farmers about bio-fertilizers.**

**Key words :** Strategies, Bio-fertilizer, Sustainable agriculture

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## INTRODUCTION

With the introduction of green revolution technologies, the modern agriculture is getting more and more dependent upon the steady supply of synthetic inputs (mainly fertilizers), which are products of fossil fuel (coal + petroleum). Land under agriculture is not increasing with the rate to keep up with the pace of the demand for food across the world (Gupta, 2007). Excessive and inappropriate use of agrochemicals has undeniably resulted in negative and sometimes irreparable effects on the environment (Ho-Kyum, 2008). In an effort to increase crop yield, the fertile soils have become acidic due to heavy chemical fertilizer application. Degraded soils and groundwater pollution caused by chemical leaching have resulted in lands becoming unproductive in the long run. In the same way, reliance on chemical pesticides to manage pest problems has aggravated environmental ruins. While chemical inputs have raised the agriculture's productivity levels, the benefits however, are short-lived. As such, farmers and consumers are now in search for alternatives to agrochemicals that would provide them safe and substantial amount of food without harm to the environment— alternatives that are safe, secure and sustainable. This situation has lead to identifying harmless inputs like bio fertilizers. Use of such natural products like bio-fertilizers in crop cultivation will help in safeguarding the soil health and also the quality of crop products. Bio-fertilizers are ready to use live formulates of such beneficial micro organisms which on application seed, root or soil mobilize the availability of nutrients by their biological activity in particular, and help build up the micro flora and in turn the soil health in general (Rathod, 2009). High nitrogen fixing, phosphate solubilizing, phytohormones producing isolates of *Azotobacter*, *Azospirillum*, *Acetobacter* and *Pseudomonas* were used as inoculants for most of crops (Rai, 2006). The importance of Cyanobacteria was recognized and a considerable amount of research has been carried out to evolve methods and means to effectively utilize these organisms as a biofertilizer (Vaishampayan *et al.,* 2001). It is proved that replacing chemical fertilizers with bio-fertilizer has far reaching consequences such as reducing environmental pollution, more cost benefits, increased yields and high quality produce.

## METHODOLOGY

This study was conducted in 2008 at Erode district of Tamil Nadu. Five villages were selected and twenty farmers were selected from each village randomly. Thus, total sample size was 100 farmers. Data was collected by