

Technology for Liquid Bio-Fertilizers Commercialized

Anand Agricultural University (AAU), Anand has developed a liquid formulation of Bio-fertilizers that are safe and eco-friendly alternative to chemical fertilizers. The liquid Bio-fertilizers (LBF) are suspensions having useful microorganisms, which fix atmospheric nitrogen and solubilise insoluble phosphates and make it available for the plants. LBFs are sold to farmers under the brand name “Anubhav liquid Bio-fertilizers” by the University. Anubhav LBF is based on native cultures of bacteria viz., *Azotobacter chroococcum*, *Azospirillum lipoferum* and *Bacillus coagulans*.

To extend its reach to the farmers, the AAU has licensed the technology of LBF for commercialization to three companies in Gujarat through its Business Planning and Development Unit (BPDU) under Public Private Partnership (PPP) mode. BPDU is a special project at AAU, Anand under the World Bank funded scheme of National Agricultural Innovation Project (NAIP) of Indian Council of Agricultural Research (ICAR), New Delhi.

AAU has supplied LBFs to the tune of 50,000 litres to the Government of Gujarat for distribution to farmers as a part of Krishi kit during *Krishi Mahotsav*, a mass agricultural technology dissemination programme of the Department of Agriculture, Government of Gujarat. The response of Gujarat farmers on use of LBF in different crops such as Cotton, Banana, Potato, Rose, Turmeric, Papaya etc. reported better yield and quality.

Liquid Bio-fertilizers have a distinct advantage in terms of cost saving on chemical fertilizers in addition to yield advantage. Chemical fertilizers otherwise may have negative effects on soil as well as human health, change the soil chemistry and these soils no longer support plant growth in the long run.

The earlier products of bio-fertilizers were carrier (solid) based where lignite is usually added as a carrier material. Lignite is hazardous to the production workers. Also, the shelf life of carrier based bio-fertilizers is only 6 months and is difficult to transport. LBFs on the other hand have a shelf life of minimum one year, with no health hazards to production workers and are easy to transport. Additionally, LBF can be used in drip irrigation and as a component of organic farming.



Source: www.icar.org.in

Dr. R. V. Vyas, Research Scientist (Microbiology) and Mrs. H. N. Shelat, Associate Research Scientist (Microbiology) have been awarded with a “Certificate of Appreciation” from the Indian Council of Agricultural Research (ICAR) for development of LBF and its commercialization.