



National Research Development Corporation

Technology offer

BIOFERTILISER

A biofertilizer is a large population of a specific or a group of beneficial microorganisms, millions and billions of them are incorporated aseptically into sterile carrier materials such as peat, lignite or charcoal. Such material is generally packed in plastic bag and sold to the farmers as biofertiliser for enhancing the productivity of soil either by fixing atmospheric nitrogen or by solubilising soil phosphorus or by stimulating plant growth through synthesis of growth promoting substances. Biofertilizers based on renewable energy source are cost effective supplement to chemical fertilizers, eco-friendly and can help to economise on the high investment needed for chemical fertilizer use as far as nitrogen and phosphorus are concerned.

In view of the huge area under cultivation for pulses, oilseeds, cereals, millets, fibre, sugarcane and vegetable crops, there is enormous potential for biofertiliser marketing in India. About 460 million packets of inoculate of 200 g each are required for inoculating to various crops having a coverage of 184 million hectare in India. Looking into the future expansion of areas and evolution of better strains which would be required to be provided everywhere, the future expected demand of biofertiliser is to be in the order of 15,000 to 20,000 MT per year. The technology offered is suitable for the manufacture of biofertilisers based on *Rhizobium*, *Azospirillum*, *Azotobacter*, *Phosphate solubilisers*, etc.

PROCESS

The manufacturing process of biofertiliser includes the collection of bacterial strains, mother culture, multiplication, grinding and sterilization of the carrier material (which is unique), blending of the bacterial broth culture with carrier and packing. The various equipments/ instruments required for the manufacture of biofertilisers are - steam boiler, autoclaves, fermenters, blending machines and packing machines. Laboratory equipments like laminar flow, BOD incubator, shakers, microscope,

spectrophotometer, pH meter, refrigerator, sensitive balances, colony counter, hot air oven, deionizer, centrifuge and other routine laboratory glassware are also required.

NRDC

National Research Development Corporation, a Government of India Enterprise, is a premier technology transfer Corporation with four decades of experience. It has helped establish over one thousand projects in the small and medium scale sector. The supply of technologies and services to entrepreneurs extend both in the developing and developed countries like USA, Germany, Malaysia, Burma, Nepal, Philippines, Senegal, Madagascar, Indonesia, Vietnam, Sri Lanka, Kenya, Brazil, Bangladesh and Egypt.

Advantages of Indian technologies:

- Low capital investment
- High employment potential
- Maximum use of local raw materials and manpower resources
- Adaptable to levels of sophistication

Services offered by NRDC

- Process know-how
- Pre-investment studies
- Feasibility / project reports
- Detailed engineering
- Turn key projects
- Equity capital participation
- Training in operation of plants
- Raw materials and products testing
- After sales service



PARAMETERS	
Capacity, TPA	100
No. of Shifts / day	2
Working days / Yr.	300
Land Area, M ²	450
Covered Area, M ²	225
MANPOWER	
Managerial	1
Administrative	2
Skilled	4
Unskilled	7
RAW MATERIAL	
Carrier- Vermiculite, lignite	or peat, chemicals
Microorganism culture	Packing material
UTILITIES	
(per annum)	
Steam, KL	10
Power, KVA	45
Water, KL	15
PLANT & MACHINERY	
Boiler, Blender	Autoclaves
Packing machine	Fermenters
ECONOMY	
Plant & Machinery	Rs. 20,00,000
Operating experience	Proven
The above figures are for budgetary purposes only and subject to change in subsequent offers	

THE GENERAL MANAGER (CHEMICAL) NATIONAL RESEARCH DEVELOPMENT CORPORATION (A GOVERNMENT OF INDIA ENTERPRISE)

20-22, Zamroodpur Community Centre, Kailash Colony Extension
New Delhi-110 048, India.

Fax (091) 11 644 9401/646 0506
Tel (091) 11 6417942/6438376

Grams NATREDEVCO
E Mail nrdevco@400.nic.gov.nic.in