



Application of Liquid Biofertilizer and their Constraints

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Liquid Bio-fertilizer is natural bio-fertilizer which is microbial inoculants of bacteria, Fungi, Algae; alone or in combination and they augment the availability of nutrients to the plants.

Objective of liquid bio-fertilizer

- To increase the number and biological activity of useful micro-organism.
- To increase crop productivity and crop production.
- Improves soil texture, soil fertility and other environmental problems.

Method of application of Liquid bio-fertilizers

Seed Treatment

- Take a proportion of seeds that are to be inoculated by the bio-fertilizer.
- Take any nitrogenous or phosphoric fertilizer and add some water to make slurry.
- Apply the slurry uniformly on the seeds and dry them seeds, you can use jiggery.
- Now, these seeds are ready to use for sowing.

Seedling dips treatment:

This method of bio-fertilizer application is used when crops are grown through seedlings.

- Take some quantity of water and add bio-fertilizers to it and mix them properly.
- Now dip the seedlings in this mixture to enable the roots to get these inoculums.
- These seedlings can now be used for transplanting.

Tuber inoculation

- Take 50 liters of water in a drum and add 4-5 kgs of bio-fertilizer to it. Mix them properly
- Now take the tubers required to plant for 1 acre of land and dip them in this mixture.
- These tubers are now ready to be planted.

Soil application:

This method is mostly used for sugarcane, fruit crops, and other trees.

- Take 25 kg of FYM and 2 kg of any bio-fertilizer.
- Mix them properly and keep them overnight.
- It is ready to be applied to the plants now.

Benefits of liquid bio-fertilizers

- No contamination
- Easy to apply
- Low effect of high temperature

- Better survival on seed and soils

Limitations of bio-fertilizers

- ❖ Bio-fertilizers are only supplements and they are not alternatives. They can be used with chemical fertilizers. But, using of bio-fertilizers reduces the usage of chemical fertilizers.
- ❖ They are not in the stage to be brought for every farmer of country. Their production is limited.
- ❖ There should be services of laboratories which can tell what soil needs actually. There is dearth of laboratories and farmers will not go for lab testing. The needed ratio of inoculants is to be given rather than using deliberately.
- ❖ Farmers should be aware of which strain is to be used for his field. Wrong choosing will not give any benefit.
- ❖ The used fertilizer should not have contaminants and should be placed number of organisms needed for the field which is not properly known to Indian farmers as they are not enough educated.
- ❖ Even bio-fertilizers are used as prescribed, soil and environment conditions may not be helpful, hence there is no chance of being successful in those conditions.
- ❖ Some bio-fertilizers are meant for specific crops and cannot be used for other crops.
- ❖ Bio-fertilizers need specific temperature and specific conditions to be stored. If farmers are not aware of it, they will lose their production.