

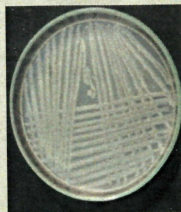


CIARI- GroPro

-a *Bacillus* based liquid formulation for organic agriculture in the Islands



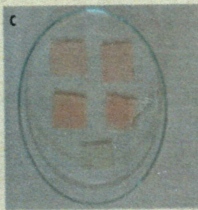
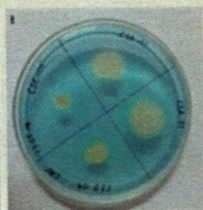
About CIARI- GroPro



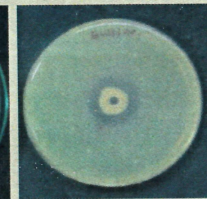
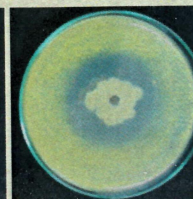
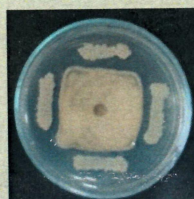
- ✓ It is a liquid based bioformulation which consists of consortium of multipotential *Bacillus* plant growth promoting bacteria.
- ✓ it enhances plant growth by uniform seed germination, high seedling vigor and uniform plant growth throughout the period.
- ✓ It also gives protection against plant diseases.
- ✓ Mainly developed for vegetable crops but can be used for other crops.

Advantages of CIARI- GroPro

- ✓ Eco-friendly method for uniform seed germination, seedling vigor and plant growth promotion through secretion of various useful compounds and also encourages other beneficial soil microflora.
- ✓ Cheaper and cost effective method in plant growth promotion and regulation.
- ✓ Gives additional protection against major seed, soil and air borne plant diseases.
- ✓ It is easy and safer to the person to handle unlike chemicals.
- ✓ It could also be applied along with other bioformulations available in market.



Plant growth promoting traits



Antagonist traits

Methods of application

□Seed treatment:

- ✓ Seed treatment time is for 30 minutes before sowing.
- ✓ For seed treatment, 200- 300 gram of seed should be soaked in 100ml of *CIARI-GroPro* for 20-30 minutes before sowing.

□Seedling treatment:

- ✓ For seedling treatment, 200 ml of the *CIARI-GroPro* should be mixed with 5- 10 litre of water in buckets/drums.
- ✓ Treat the seedlings in prepared solution by root dipping for 30 minutes before transplanting in the main field.

□Foliar application:

- ✓ For foliar spray, 50 ml *CIARI-GroPro* solution should be mixed with 10 litre of water and the spraying can be done on leaves, flowers and fruits in the standing crop.

Advantages of liquid formulations in organic agriculture

- ✓ Longer shelf life up to 3-4 months.
- ✓ Very easy to use by the farmer.
- ✓ Higher quality and no contamination
- ✓ No loss of properties due to storage up to 45°C.
- ✓ High populations can be maintained (more than 10^9 cells/ml)
- ✓ Dosages is 10 time less than carrier based powder formulations but efficacy is much higher.

Note:

- ✓ Don't use *CIARI- ProGro* along with chemicals
- ✓ Use the product after gentle mixing.



Treated seedlings



Untreated seedlings

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