



REAP[®]-N1

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Reap N is a bio-fertilizer based on the selective strains of nitrogen-fixing beneficial bacteria such as Azotobacter (Reap N1), Acetobacter (Reap N2), Azospirillum (Reap N3) and Rhizobium (N4). This is available in liquid (1×10^9 bacterial cells/ml) formulation. Reap N accelerate certain microbial processes in the soil which augment the extent of availability of Nitrogen in a form easily assimilated by plants. Reap N is available in four different variants as Reap N1, Reap N2, Reap N3 and Reap N4.

Reap N 1, 2, 3 & 4; Efficient nitrogen fixers

Reap N provide nitrogen to crop plants through nitrogen fixation processes. Reap N variants could be effectively utilized for cereals, pulses, cotton, sugarcane, fruits, vegetables and other horticulture crops. Reap N is one of the prime input in organic farming not only enhances the crop growth and yield but also improves the soil health and sustain soil fertility.

Reap N1 (*Azotobacter chroococcum*)

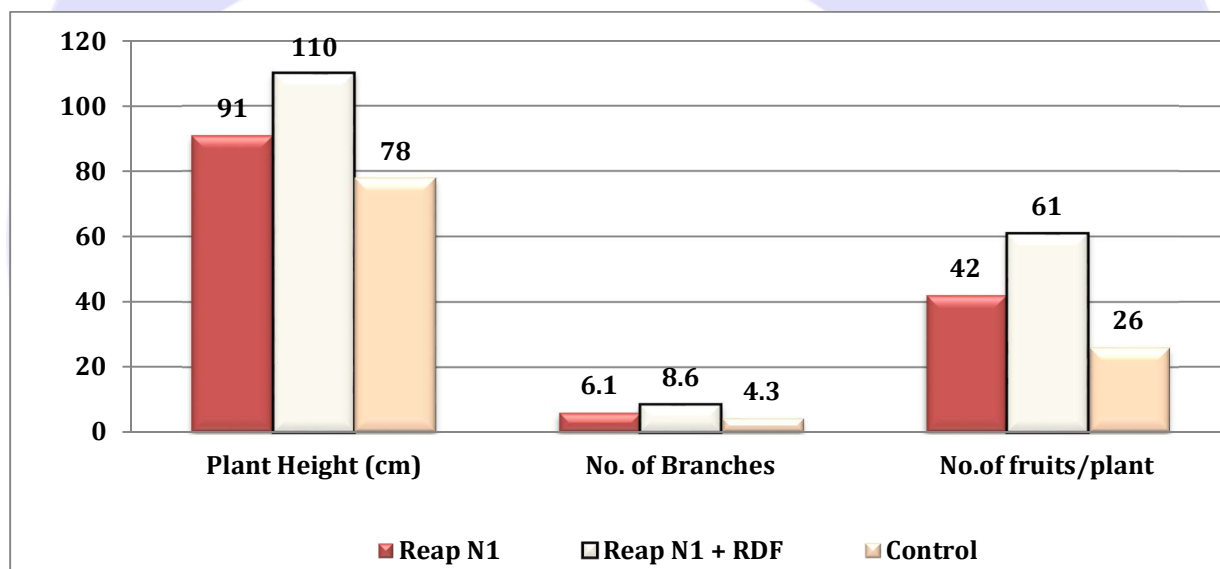
Reap N1 is bio-fertilizer based on selective strain of free living diazotrophic bacteria *Azotobacter chroococcum*, which fixes atmospheric nitrogen in the soil, converting it to ammonia. Reap N1 effectively fixes Nitrogen from atmosphere in the rhizosphere and supplements it to plants to the extent of 20 to 50 kg/ ha, saving up to 25-30% of costly Nitrogenous chemical fertilizer inputs, making Reap N1, safe & effective product for Integrated Nutrition Management (INM). *Azotobacter chroococcum* in Reap N1 also

produces some substances which check some plant pathogens protecting root/plant from fungal infestation, resulting in disease incidence reduction.

Nitrogen fixation by Reap N1 (*Azotobacter sp*)

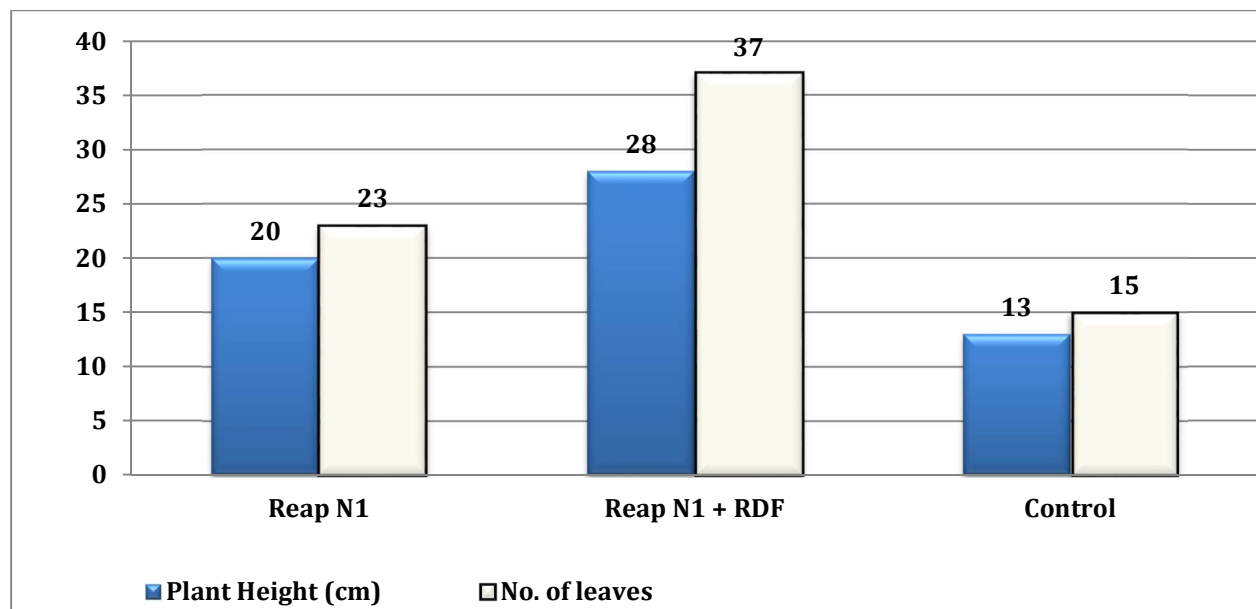
Crops	Nitrogen fixation by Reap N1 Kg/ha.	Equivalent to kg of Urea
Cereals	18-20	42 - 43
Cotton	15-20	32 - 43
Fruits & Vegetables	20-30	43 - 65

Effect of Reap N1 on growth and yield of Tomato



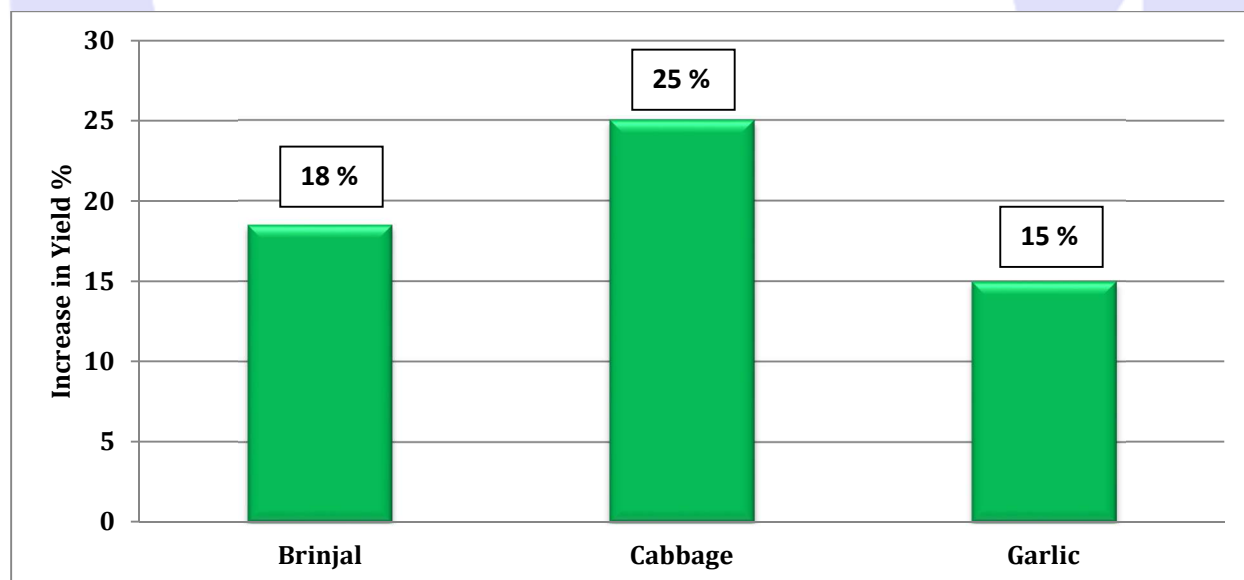
40 DAT	65 DAT
Drenching	Result

Effect of Reap N1 on growth of Chilli plant



At transplanting	25 DAT
Seedling treatment	Result

Effect of Reap N1 on Yield of Brinjal, Cabbage and Garlic



At Transplanting	60 DAIT	Harvesting
Seedling Deeping / Drenching	2 nd Drenching	Result

DAIT- Days After first Treatment

Reap N2 (*Gluconacetobacter dizazotrophicus*)

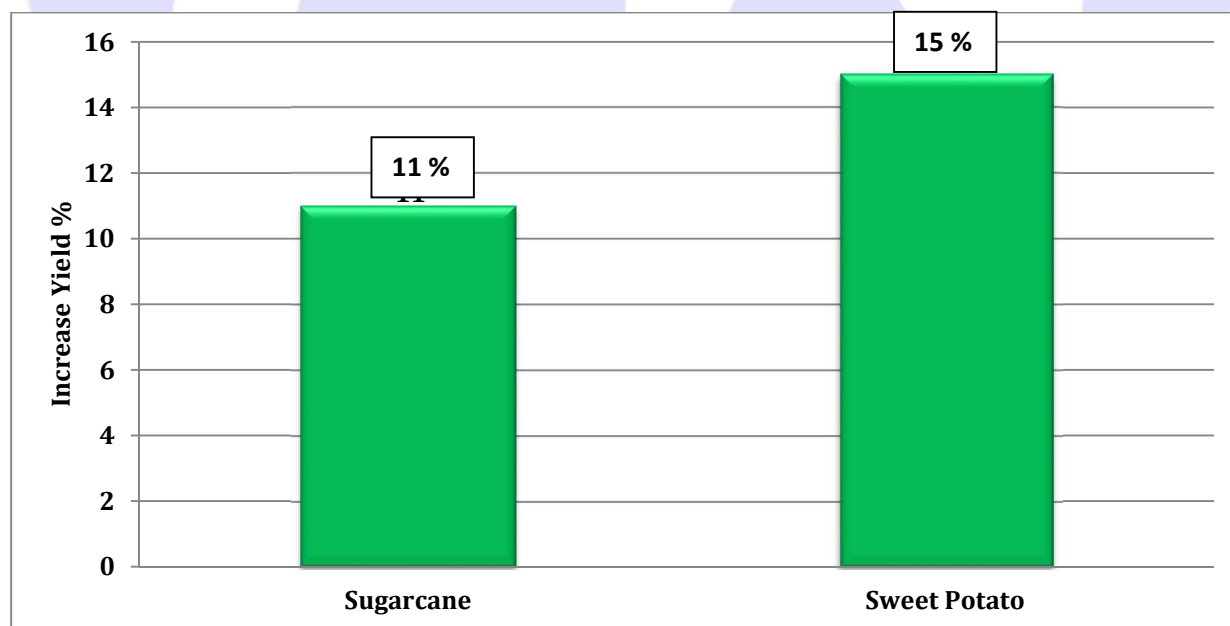
Reap N2 is bio-fertilizer based on selective strain of symbiotic aerobic bacteria *Gluconacetobacter dizazotrophicus*. This is a sacharophillic bacteria and associate with sugarcane, sweet potato and sweet sorghum plants and fixes 30 kg/ N/ ha year. It is known to increase yield by 10-20 t/ acre and sugar content by about 10-15 percent.

Reap N2 has been found to provide its host plants with phytohormones. Indole-3-acetic acid (IAA) and gibberellins A1 and A3 have been found to be produced by *G. diazotrophicus*, both phytohormones are critical for normal plant growth and development. Reap N2 has also been found to have phosphorous and zinc solubilisation capabilities.

Nitrogen fixation by Reap N2 (*Gluconacetobacter sp*)

Crops	Nitrogen fixation by Reap N2 Kg/ha.	Equivalent to kg of Urea
Sugarcane, Sweet potato	25-30	54 - 65

Effect of Reap N2 (*Gluconacetobacter dizazotrophicus*) on yield of sugarcane and sweet potato over control



At planting	1 st Earthing up	180 DAT (sugarcane)	Harvesting
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Setts / Rhizome treatment	Drenching	Drenching	Result
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Reap N3 (*Azospirillum sp*)

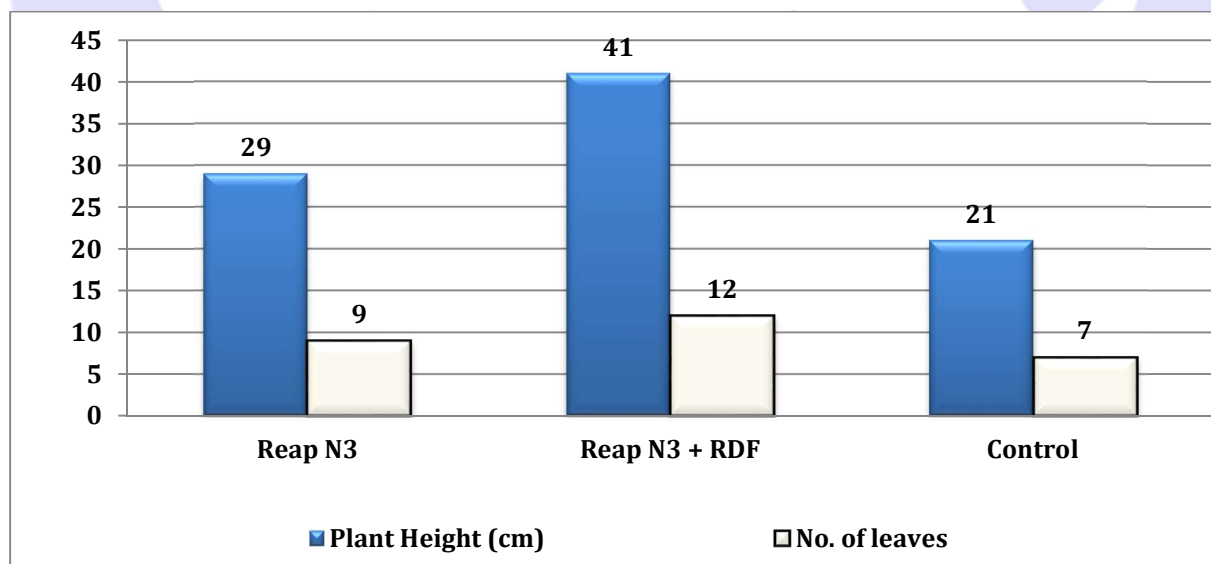
Reap N3 is bio-fertilizer based on selective strain of free living diazotrophic bacteria *Azospirillum sp.*, which fixes atmospheric nitrogen in the soil. Reap N3 is an associative type of microorganism capable of colonizing root surface of plant. By establishing a symbiotic association ship, it helps plant in getting Nitrogen from the atmosphere.

In addition to its effects on roots, Reap N3 improves many plant foliage parameters which were attributed to improved mineral and water uptake.

Nitrogen fixation by Reap N3 (*Azospirillum sp*)

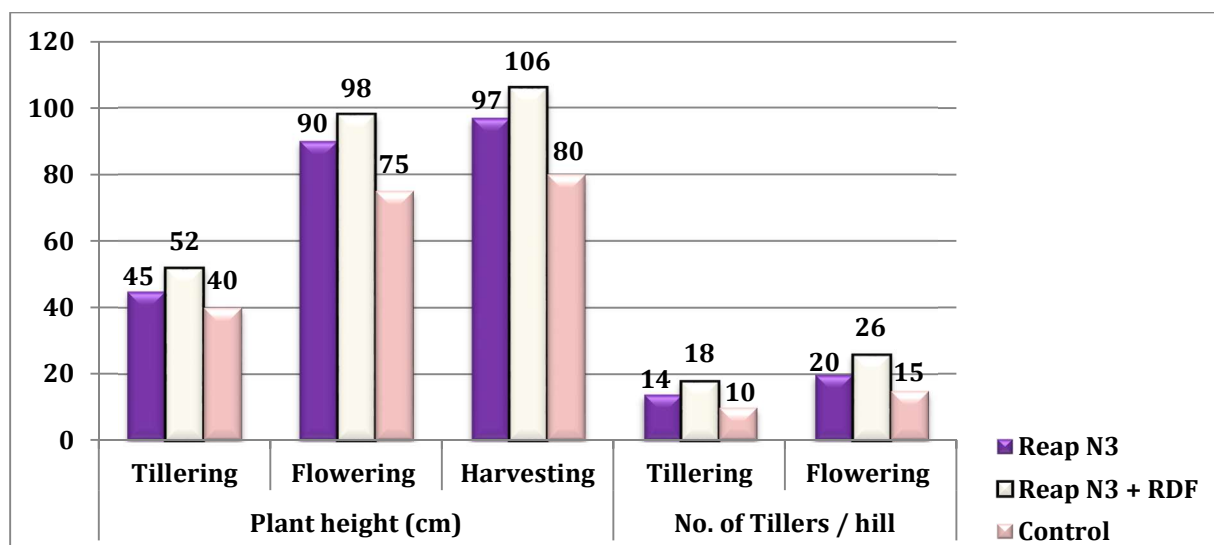
Crops	Nitrogen fixation by Reap N3 Kg/ha.	Equivalent to kg of Urea
Paddy	20-40	43 - 85
Maize	20-30	43-65

Effect of Reap N3 (*Azospirillum sp.*) on growth of Maize



At Sowing	35 DAS
Seed treatment	Result

Effect of Reap N₃ (*Azospirillum* sp.) on growth of Paddy



Transplanting	Tillering stage	Flowering stage	Harvesting stage
Seedling treatment	1 st Result	Drenching & 2 nd Result	3 rd Result (only for plant height)

Reap N₄ (*Rhizobium* sp)

Reap N₄ is bio-fertilizer based on selective strain of end symbiotic bacteria *Rhizobium* sp., which fixes atmospheric nitrogen in to the soil converting it to ammonia (NH₃).

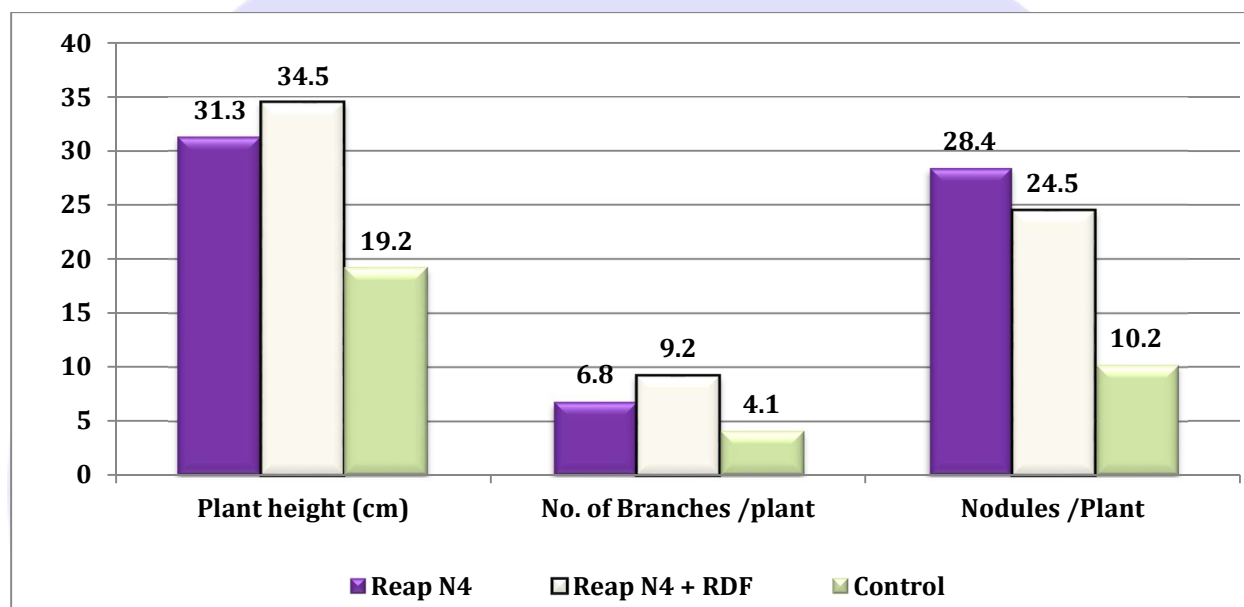
Reap N₄ effectively fixes Nitrogen in root rhizosphere from atmosphere in symbiotic relationship with root of legumes by forming root nodules and supplements it to plants to the extent of 55 to 60 kg/ ha, saving up to 25-30% of costly Nitrogenous chemical fertilizer inputs, making Reap N₄, safe & effective product for Integrated Nutrition Mission Program (INM).

Nitrogen fixation by Reap N₄ (*Rhizobium* sp)

Crops	Nitrogen fixation by Reap N ₄ Kg/ha/year	Equivalent to kg of Urea
Green pea, Lentil	62- 132	135 - 286
Soybean	57- 105	124 - 228

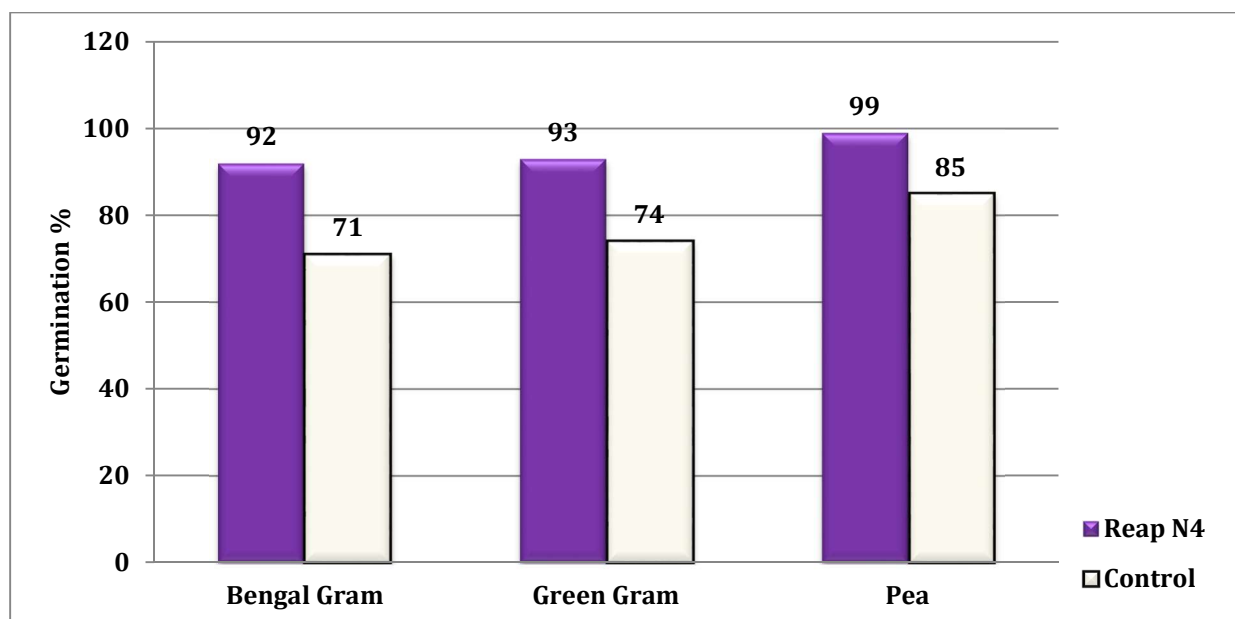
Green Gram, Red gram, Cowpea, Groundnut	57- 105	124 - 228
Bengal gram	75- 117	163 – 254
Beans	80- 110	174 - 239

Effect of Reap N4 on growth of Chickpea



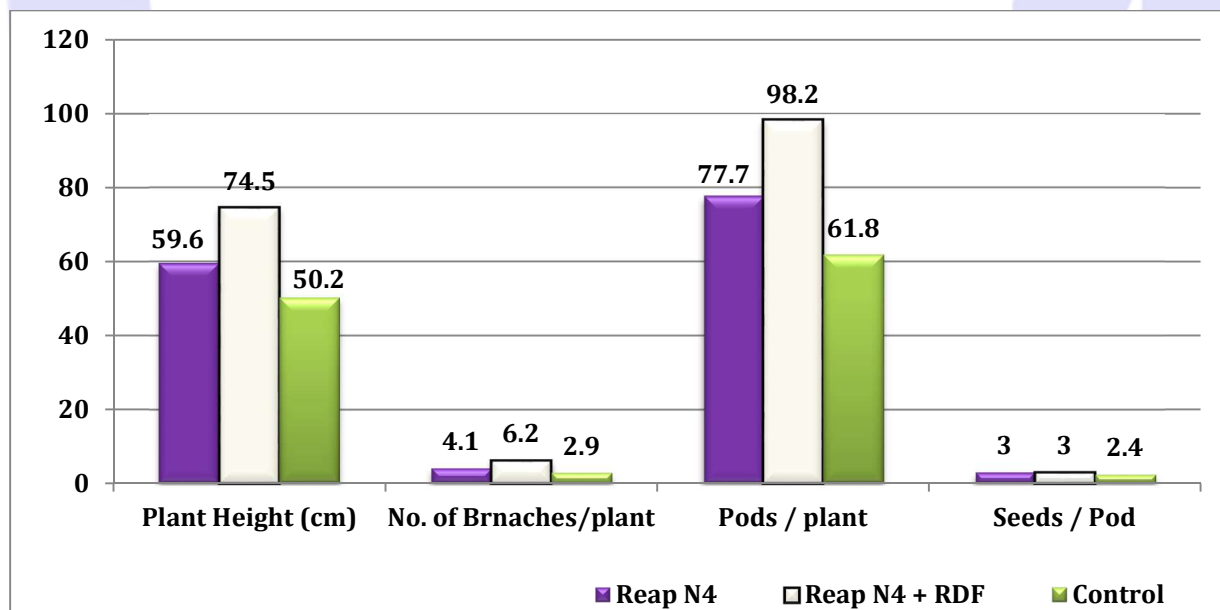
At Sowing	60 DAS
Seed treatment	Result

Effect of Reap N4 on seed germination of different crops



At Sowing	15 DAS
Seed treatment	Result

Effect of Reap N4 on growth and yield parameters of Soybean



At Sowing	Harvesting
Seed treatment	Result

Use in conventional, sustainable and organic production systems

Reap N series can be used in conventional, sustainable & Organic production systems for the improvements in soil & plant health to maximize the yield. It is recognized as fully compliant for use on organic crops.

Proven performance

Many research trials have shown that soil application of Reap N have very significant effects on growth & yield of various crops.

Environmental safety

Reap N is Earthworm friendly, pet friendly, ecofriendly, infant friendly & does not disturb ecological balance.

HIGHLIGHTS

It fixes atmospheric nitrogen to the level of 20-40 kg per hectare

It helps to reduce the amount of synthetic fertilizer usage

Increases the viability and germination of seeds

It improves the plant vigor and health

Help to improve the soil health

Helps to increase the crop yield

For use in conventional, sustainable and organic production

Environmentally safe

Be in touch with your Retailer or Green Earth Team member.

You can also directly get in touch with us:

Phone 07104-235144

Email sales@ncsagri.com,

www.greenearth.world

