Benefits

For the soil:

- Maintains soil nitrogen levels
- Promotes growth of other useful microorganisms
- Provides increased soil organic matter
- Can help control striga

For the yield:

- Can improve yield by 50%
- Improves protein quality of crops

For economic value

- It is cheaper than ordinary nitrogen fertilizer
- The small sachet are very easy to transport

Target crops

Rhizobium leguminosarum phaseoli for common bean

Bradyrhizobium elkanii for cowpea

Bradyrhizobium japonicum for soybean

Rhizobium spp for groundnut

Information for suppliers and retailers

Quality of inoculant

- Strain should be efficient for target crops.
- Ensure good quality carrier material, free from microbial contamination
- Adequate number of efficient and viable bacteria cells

Handling and storage

- Transport and store at correct temperatures ie. 10°C-28°C
- Do not expose to direct sunlight
- Do not transport or store together with chemicals
- Do not stock longer than the expiry date.

Working in partnership to create down-to-earth messages on integrated soil fertility management

AFRICA soil health consortium

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Ethiopian Institute of Agricultural Research
(EIAR)

Rhizobia-based bio-fertilizer

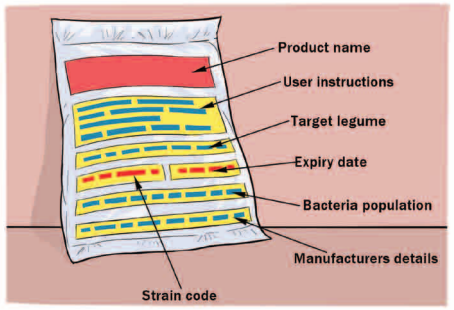
Guidelines for extension staff

What is bio-fertilizer?

An organic fertilizer containing living cells that help plants uptake of nutrients when applied to seed or soil.

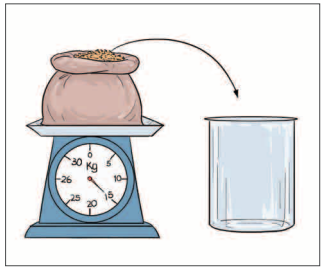
Rhizobia-based bio-fertilizer contains symbiotic bacteria capable of invading and eliciting root or stem nodules on leguminous crops to convert atmospheric nitrogen, into ammonia in plant roots.

For rhizobia-based fertilizer to be effective in legumes, phosphate fertilizers are needed.



How to apply

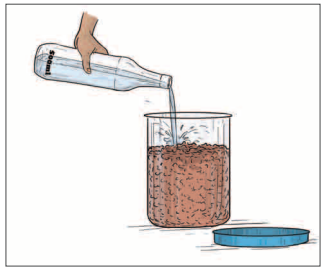
Step 1:
Prepare 16kg of clean seed, enough for 1 acre



Step 2:
Pour 300ml of clean lukewarm water into a 500ml bottle

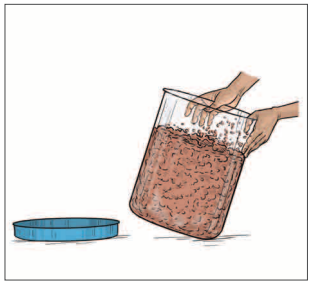
Step 3:
Add 2 tablespoons of sugar to the water and mix thoroughly

Step 4:
Add the sugar solution to the prepared seed and mix evenly



Step 5:
Shake the sachet of inoculum to break clods. Open sachet under shade and pour into the prepared seed in a basin

Step 6:
Mix the seed and inoculant and slowly shake until seeds are uniformly coated.
Be careful not to split or peel the outer coat of seeds.



Step 7:
Plant all the coated seed immediately after inoculation

Repeat the same process
Until the field is planted.