

AZOTOBACTER

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- Azotobacter spp. Are Gram negative , free-living , aerobic soil dwelling bacteria that belongs to the azotobacteriaceae family.
- It is oval or spherical bacteria that form thick-walled cysts.
- There are around six species in the genus Azotobacter some of which are motile by means of peritrichous flagella.
- The Azotobacter genus was discovered by dutch microbiologist and botanist Beijerinck et al.

CHARACTERS

- Azotobacter spp. Are Gram negative, free-living ,aerobic soil dwelling ,heterotrophic bacteria.
- It is oval or spherical bacteria that form thick-walled cysts.
- These bacteria possess peritrichous flagella and produce polysaccharides.
- They are sensitive to acidic pH , high salts and temperature above 35 degree Celsius.
- Azotobacter requires a large amount of organic carbon for its growth

USE OF AZOTOBACTER AS BIOFERTILIZER

- Azotobacter spp. Are non-symbiotic heterotrophic bacteria of fixing an average 20kg N/ha/per year.
- It fix atmosphere nitrogen , by the conservation of this elemental from to ammonia.
- Plant needs nitrogen for its growth and Azotobacter fixes atmospheric nitrogen non-symbiotically.

ADVANTAGES OF AZOTOBACTER CULTURE

- It improves seed germination and plant growth.
- It thrives even in alkaline soils.
- Azotobacter is tolerant to high salts.
- It can benefit crops by nitrogen fixation, growth promoting substance , fungi static substance.
- The effective strain used in azotobacter culture fixes about 15-20kg .
- Atmospheric nitrogen per hectare