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Center for Smart Agriculture

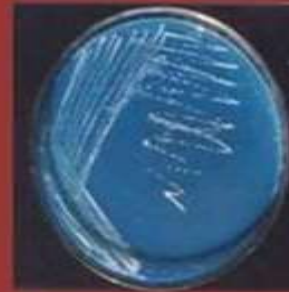
Course: Organic Farming



Rhizobium



Azotobacter



Azospirillum



PSM



Azolla



Cyanobacteria



Topic: Characteristics of fungal biofertilizer



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Vesicular Arbuscular Mycorrhiza (VAM)

The term mycorrhiza as taken from

Greek language meaning

'fungus root'. term was

coined by Frank

in 1885



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The mycorrhiza is a mutualistic association between fungal mycelia and plant roots.

VAM is an endotrophic (live inside) mycorrhiza formed by aseptated phycomycetous fungi.

VAM help in **nutrient transfer** mainly of phosphorus, zinc and sulfur.



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Inoculation with VAM



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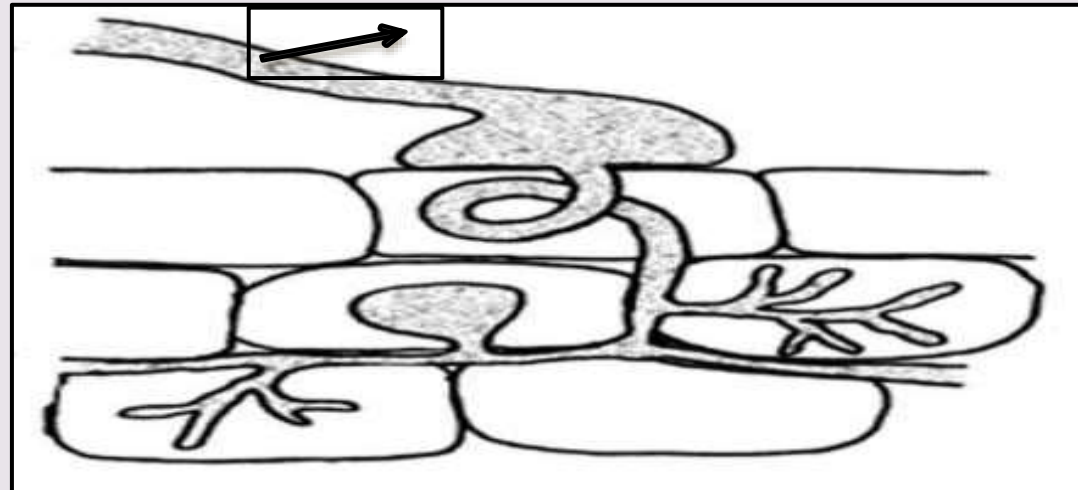
- Mycorrhizae is the symbiotic association between plant roots and soil fungus of the 7 types of mycorrhizae,
- VAM plays a great role in inducing plant growth.
- VAM are symbiotic entophytic soil fungi, which colonize the roots of approximately 80% plants.
- The VAM hyphae also help in retaining moisture around

the root zone of plants
- It increases the resistance to root borne or soil borne pathogens and Nematodes.



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- They also **mobilize different nutrients** like Cu(copper), K(potassium), Al(aluminum), Mn(manganese), Fe (iron)and Mg (magnesium) from the soil to the plant roots.
- They posses vesicles (sac like structure) for storage of nutrients and arbuscular for funneling them into root system.





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Mechanism of Action

- The VAM forms an association with plant roots.
- It **penetrates in the root cortex** and spreads around the roots of the plant.
- As the name indicates, they possess sac-like structures called **vesicles** which store phosphorus as phospholipids.
- The other structure called arbuscule helps bring the distant nutrients to the vesicles and root.



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THANK YOU