

M.Sc. IV Semester

MBT – 4003B: Environmental Biotechnology

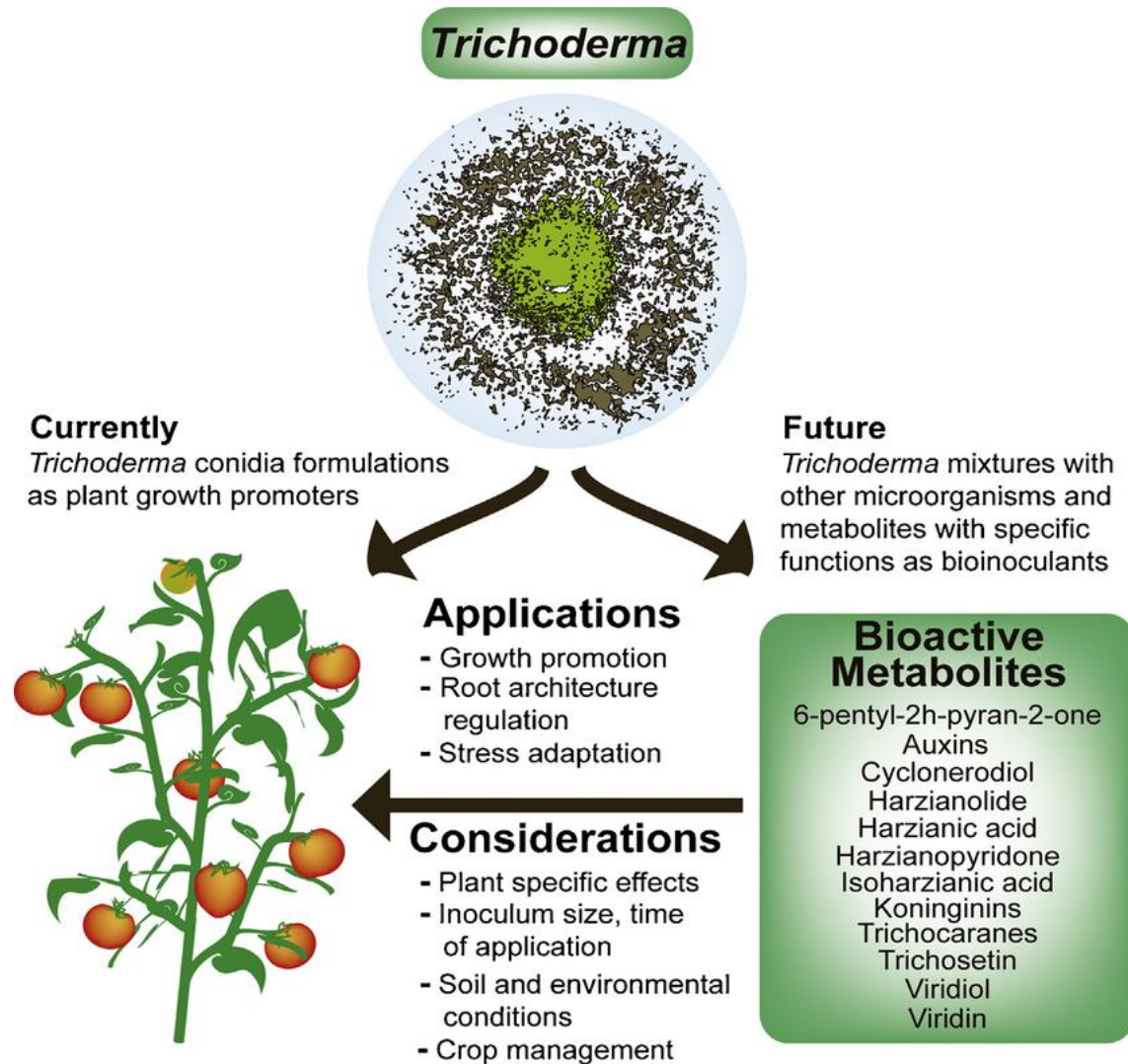
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Dr. Madhulika Singh

***Trichoderma* Spp.**

- **Trichoderma is a genus of fungi that is present in most types of soils.**
- **They are the most prevalent culturable fungi.**
- Trichoderma spp. is ubiquitous in environment
- Trichoderma spp. frequently are isolated from forest or agricultural soils and from wood. Some also have been found growing on other fungi. There are around 90 species in the Trichoderma genus.

POTENTIAL APPLICATIONS IN MODERN AGRICULTURE AND SUSTAINABLE ENVIRONMENT



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MODE OF ACTION

Trichoderma can work as biocontrol agents in several ways

- 1. It may grow faster or use its food source more efficiently than the pathogen, thereby crowding out the pathogen and taking over, known as nutrient competition.**
- 2. A biocontrol agent may excrete a compound that slows down or completely inhibit the growth of pathogens in the surrounding area of such a compound called antibiosis.**
- 3. It may feed on or in a pathogenic species directly known as parasitism.**
- 4. It may promote a plant to produce a chemical that protects it from the pathogen, which is induced resistance.**
- 5. They can grow in an endophytic way in other species and supports plant growth.**

POTENTIAL APPLICATIONS IN MODERN AGRICULTURE AND SUSTAINABLE ENVIRONMENT

- **Trichoderma spp. can also be used in waste/organic materials decomposition and polluted area detoxification.**
- **The increase of nutrient value in compost degraded by Trichoderma strains is discovered in several research papers.**
- **Trichoderma spp. when combined in a product are being able to control different crop diseases, stimulates plant growth and development, improves the composting process and promises a clean environment towards achieving sustainable agriculture.**

Thanks