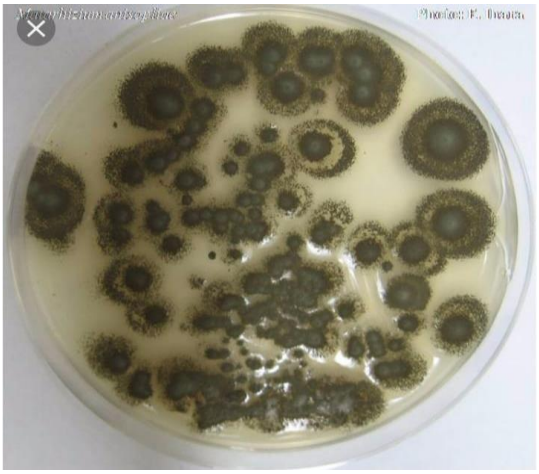
Mass production of Metarhizium anisopliae

Entomopathogenic fungus used for the biological control of Rhinoceros beetle, Root weevil, Locust, Thrips, Termite etc. *Metarhizium* is a plant symbiont that can act as a saprophyte in the rhizosphere but has also evolved as a generalist insect pathogen. As such, the paradigm that *M. anisopliae* is principally an insect pathogen is questionable, and additional studies will be necessary to better understand its ecological role in the soil.



The disease caused by the fungus is called green muscardine disease because of the green color of its spores. When these mitotic (asexual) spores (properly called conidia) of the fungus come into contact with the body of an insect host, they germinate and the hyphae that emerge penetrate the cuticle. The fungus then develops inside the body eventually killing the insect after a few days; this lethal effect is very likely aided by the production of insecticidal cyclic peptides (destruxins). The cuticle of the cadaver often becomes red. If the ambient humidity is high enough, a white mold then grows on the cadaver that soon turns green as spores are produced.

PREPARATION OF MOTHER CULTURE

- Media – PDA (Potato Dextrose Agar) media
- Media composition- Potato(200g), Dextrose (20g), Agar(20g), Distilled water(1000ml)
- Sterilization of media at 121 degree Celsius for 20 min in autoclave
- Medium cooling
- Test tubes kept in slanting position in LAF
- Inoculation with 22 to 30 days old fungal disc
- Incubation at room temperature for 10 to 15 days

MASS MULTIPLICATION

- Broth is poured at the rate of 300 ml per bottle
- Sterilized at 121 degree Celsius for 20 min in autoclave
- Cooling
- Incubated with mother culture
- Kept for 20 to 25 days at room temperature
- Fungal growth along with broth collected and homogenized in a blender
- Mixed with particular formulation (talc or oil)
- sealed and labelled