Bio control:: Mass production::Fungus

Mass production of green muscardine fungus, *Metarhizium anisopliae*

Introduction

- Fungi represent a diverse group of insect pathogens. The insects attacked by the fungus die shortly after the fungus begins to develop in the haemocoel. The rhinoceros beetle, *Oryctes rhinoceros* is one of the serious and important pests of coconut and has a wide distribution and persistent occurrence in all the coconut growing areas in the country.
- The adult beetle cause severe damage to the growing palms by feeding on the tender fronds and crowns and resulting in stunting of the trees. The damage to the spathe results in the loss of nuts. Young seedlings are sometimes killed outright.
- Since the insect breeds in the farmyard manure and fallen coconut trees, the control measures have to be directed at the breeding sites as well as on the trees.
- The chemical control measures adopted against this pest are always costly, tedious and have to be repeated.
- Hence an easy method utilizing the safe and specific fungus, *Metarhizium anisopliae* for the management of this pest is aimed at.

Green muscardine fungus

- The colony of *M. anisopliae* appears white when young, but as the conidia mature, the colour turns to dark green.
- The conidiophores are branched, and the initial conidium is produced at the distal end of the conidiophores.
- A chain of conidia is formed on each conidiophore with the youngest conidium being adjacent to the conidiophore.
- The mass of spore chains becomes so dense and coheres with each other to produce prismatic masses of columns of spore chains.

In Carrot broth

- Carrot cut into small pieces (40 g) is washed in potable water and transferred to conical flask (250 ml) and 15 ml of distilled water is added.
- The conical flasks are plugged with cotton and autoclaved for 20 min at 15 psi.
- The flasks are allowed to cool and taken to laminar flow chamber for inoculation.
- From a clean uncontaminated mother culture in slant loopful quantities of *M. anisopliae* spores are transferred aseptically.
- The flasks are incubated at room temperature. The spores can be harvested in a fortnight.

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