**NEM 204 - BIOLOGICAL CONTROL:**

**SOIL PREDATORS:**
- TARDIGRADES
- TURBELLARIANS
- ENCHYTRAЕIDS
- INSECTS
- MITES
- NEMATODES

**PREDATORY NEMATODES**

**PARASITES:**
- BACTERIA
  - *PASTEURIA PENETRANS*

**Life Cycle of *Pasteuria penetrans***

- *Fig. 7.4. A diagrammatic sketch of the life cycle of Pasteuria penetrans, and the parasitized life stages of the root knot nematode, Meloidogyne incognita. (From Davis and Bean, 1971, with permission.)*

- *Fig. 7.5. A re-evaluation of the life cycle of Pasteuria penetrans. The main modifications to the life cycle depicted in Fig. 7.4 are the formation of rhizoids on the germination peg to help the bacterium proliferate through the pseudocoelom (C); and the subsequent formation of rods (D), which then proliferate exponentially to form granular masses. (From Davies et al., 2011, with permission.)*
RING FORMING FUNGI:

HIRSUTELLA RHOSILIENSIS
PAECILOMYCES LILACINUS (MeloCon)
VERTICILLIUM CHLAMYDOSPORIUM

ALTERING THE BALANCE OF NATURE:
WELL ADAPTED PARASITES EXIST IN A BALANCED RELATIONSHIP WITH THEIR HOSTS MINIMIZES THE CHANCES OF BECOMING EXTINCT MORE THAN ONE PARASITE MAY BE NEEDED IN A GIVEN SITUATION
INDUCTIVE PHASE

SUPPRESSIVE PHASE

ECONOMIC DAMAGE THRESHOLD

NEMATODE POPULATION (EGGS/GRAM OF SOIL)

YEARS OF MONOCULTURE

SUPPRESSIVE SOILS

ENTOMOPATHOGENIC NEMATODES
STEINERNEMA AND HETERORHABDITIS - ENTOMOPATHOGENIC NEMATODES

RELEASE OF INFECTIVE JUVENILES

STEINERNEMA ENTER VIA NATURAL OPENINGS HETERORHABDITIS PENETRATE CUTICLE

INFECTIVE JUVENILE PRODUCTION

NEMATODES RELEASE BACTERIAL CELLS - HOST DIES - NEMATODES FEED ON BACTERIA

MATING IN NEXT GENERATION

MATING IN STEINERNEMA

REDBRAWN FROM WOODRING AND KAYA, 1998

HERMAPHRODITES IN HETERORHABDITIS