**B-80: Feasibility of using *Trichoderma koningii* and captan in the control of onion disease caused by *Fusarium solani***

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Onion rot caused by *Fusarium solani* is the predominant disease in onion cultivation in the Batticaloa district.

The following studies were undertaken : (1) distribution of soil inhabiting pathogenic and beneficial micro fungi, on surface layer (15 cm) of soil, (2) laboratory studies using different concentrations of *Trichoderma koningii* ($1.3 \times 10^5$ spores/ml, $2.3 \times 10^5$ spores/ml, $3.9 \times 10^5$ spores/ml, and $5.3 \times 10^5$ spores/ml) in Oat Meal Agar (OMA) against *F. solani*, (3) poly pot trial (22 cm length, 12.5 cm width) of onion in greenhouse in different methods of treating *Trichoderma* ($13 \times 10^6$ spores/ml) and captan (5 g/ 0.5 kg bulbs) tested against onion rot. Experiments were arranged in a Completely Randomized Design (CRD) with 6 replicates, (4) the method of application of captan in the field against onion rot was studied in a CRD. Each plot (1 m x 1 m) was randomized 4 times. Bulbs were planted 10 cm apart. Lateral diffusion of captan was prevented by buried aluminium sheet (1 m depth).

Soil sampling had different locations and different media (*viz*. Soil Extract Agar (SEA) and Agar & Agar (AA)) of this area showed the existence of pathogenic fungal genera *viz*. *Fusarium* spp, *Alternaria* spp, *Helminthosporium* spp, *Aspergillus niger*, *Aspergillus flavus*, *Pythium* spp, *Choanophora* spp and beneficial fungal organism *T. koningii* during the period February to July 1993.

Testing of inhibition of radial growth rates of *F. solani* in different amended *Trichoderma* plates *in vivo* at 25°C, $3.9 \times 10^6$ spores/ml added *Trichoderma*

plates significantly ($P < 0.05$) reduced the *F. solani*. Application of captan along with *Trichoderma* reduced the number of bulbs while *Trichoderma* applied alone increased the number of bulbs ($P > 0.05$).

Seed treatment of captan in sandy soils showed better effect than drenching of captan (28.8 g/4.5 l) in weekly intervals in control of onion rot.