B-146: Hatching stimulation of free eggs of *Globodera rostochiensis* by actively growing *in vitro* root-tip-fragments of potato (*Solanum tuberosum* L.)

N Iddagoda
(*Plant Biotechnology Programme, Institute of Fundamental Studies, Kandy*)

The stimulation by *in vitro* induced root-tip-fragments of potato on hatching of free eggs of *Globodera rostochiensis* under monoaxenic culture conditions was examined.

Different numbers of isolated root-tip-fragments (0,1,5,10,15,20 per petri dish), which was initially induced on stem interonode-segments of potato cv. *Krushi* and *Delcora*, were allowed to grow in petri dishes containing growth regulator-free Murashige & Skoog (MS) medium supplemented with 3% sucrose. Each petri dish was inoculated with a suspension of nematode eggs of equal density (50-75 unhatched eggs/50µl) by making a tiny well (3.5 mm diameter x 2-3 mm depth) in the centre. They were incubated for 35 days under dark condition at 23±2°C. The root-tip-fragments that were kept at the periphery of petri dish, with the growing-ends pointing towards the centre of the pelri dish grew actively, while stimulating the inoculated free eggs to hatch.

The imtial percentage cumulative hatching levels after 7 days of incubation were positively correlated with the number of root-tip-fragments only up to 15 fragments per petri dish. It decreased at 20 root-tip-fragments (30.8% for *Krushi* and 21.7% for *Delcora*) to half the level at 15 root-tip-fragments (63% and 40% respectively). However, for both cultivars hatching levels gradually increased to 80% and 59% respectively to the end of 35 days incubation, as it did at 10 and 15 root-tip-fragments. With 1 and 5 root-tip-fragments/petri dish the maximal hatchings reached were equal in the 2 cultivars (~36% for *Krushi* and ~29% for *Delcors*).

When results were used to evaluate the effect of total root length on the stimulation of hatching of nematode eggs, it was found that there was no correlation between these two.