

**B-25 Effect of different heat treatments on the stability of hatch-stimulation substances of potato cyst nematode free eggs**

S N Illanganthilake, N Iddagoda

*Plant Biotechnology Programme, Institute of Fundamental Studies, Kandy*

The potato cyst nematode hatches freely only when stimulated by host-root diffusate. The constitution of the natural active factory for egg hatch of *Globodera rostochiensis* in potato root diffusate is not yet fully known although work has been in progress almost 50 years. This study investigates the effect of different heat treatments on the stability of the hatch-stimulation substances of potato root diffusates under *in vitro* conditions. Murashige and Skoog (1962) basal medium (MS) supplemented with 0.5 mg l<sup>-1</sup> indole-3-acetic acid was used to promote *in vitro* root systems from internode stem segments of cv. *Sebago*. Following 30 days of culture period, petri dishes were aseptically opened and root systems were removed from the growth medium. The separately collected media with root diffusates were subjected to 4 different heat treatments (10 min at 100°C, 2 h at 100°C, 15 min at 121°C under 1.05 kg cm<sup>-2</sup> and 23 ± 2°C) and poured into fresh sterilised petri dishes for inoculation by aqueous egg suspensions. 3 h after the heat treatments tiny wells were made in agar plates and inoculated by egg suspensions for hatch inducing. The petri dishes with nematode eggs suspensions were incubated in the dark at 23 ± 2°C. The petri dishes, lacking *in vitro* root systems were also subjected to the same treatments and kept as controls.

Evaluating the percentage cumulative hatch of nematode free eggs as an influence of potato root diffusates on hatching, it was found that even 2 h at 100 °C heat treatment did not destabilise the nematode eggs' hatch-stimulation substances totally.