

NEMATICIDAL RESPONSE OF KHANNAUT RIVER WATER AND ANALYSIS OF ITS PHYSICO-CHEMICAL PARAMETERS

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ABSTRACT : To get rid of the problem of various diseases, there is a need to evolve some eco-friendly and economically acceptable approach for the management of phytonematodes. Besides herbal products, scientists have also tried sewage, effluents, municipal wastes etc. including river water. In the present study the possibilities of using Khannaut river water (Shahjahanpur district of U.P.) against root-knot nematodes, *Meloidogyne incognita* has been explored. This river gets polluted in Shahjahanpur city after mixing the effluents of industries. This polluted river-water had been collected and analysed in the laboratory for its nematicidal efficacy as well as for its physico-chemical parameters. Physical parameters exhibit dark yellowish Colour, approx. 27°C temperature, Odourless, 310 μ moles/cm, Conductivity, 414.9mg/l, Total Dissolved Solids 206mg/l Suspended solids.

Chemical parameters show 7.5pH, 0.01 mg/l Nitrate Nitrogen, 3.5mg/l, Dissolved Oxygen, 2.0mg/l Biological Oxygen Demand, 16.0mg/l Chemical Oxygen Demand, 130mg/l Total Hardness, 28.0mg/l Calcium, 22.0mg/l Chlorides, N.T. Oil & Grease, 120mg/l Total Alkalinity, 25.5 mg/l Carbonates, 212.2mg/l Bicarbonates, 2.8mg/l Phosphates, 3.5mg/l Silicates and 2.2mg/l Iron. *In vitro* experiments were set by taking J_{25} from pure culture of *M. incognita* and screened as suggested by Cobb's Sieving and Decanting method. For observing mortality of J_{25} of *M. incognita* at regular interval of 24hrs. upto three days, firstly, river-water was used as a stock solution (100%), later on two concentrations (50% and 25%) were prepared by mixing distilled water in stock solution. All the concentrations were found effective and shown in table and discussed in the light of other rivers of Rohilkhand and Uttarakhand region.

Key Words : Management of phytonematodes, *M. incognita*, mortality, Khannaut river-water, physico-chemical parameters.