techniques to be used for extraction. For loamy sand soil dry sieving + rubbing was better than other methods while in the case of sandy loam soil as well as pot culture soil, sieving, fenwick can and modified fenwick can were equally good.

After extraction, quick separation of cysts from debri was obtained by acetone+carbon tetrachloride (drying of cyst+debri at 25°C), ethanol (drying of cyst+debri at 15°C). However, these chemicals depressed the hatching of the cysts but other inorganic chemicals like NaCl (sp. gr. 1.19) and $MgSO_4$ (sp. gr. 1.22) which were significantly inferior to acetone+carbon tetrachloride and ethanol for separation of cysts from debri stimulated hatching of the recovered cysts.

INTERACTION OF *HETERODERA ORYZICOLA* AND *MELOIDOGYNE GRAMINICOLA* IN ARTIFICIAL INOCULATION IN RICE : Y. S. Rao and J. S. Prasad, Central Rice Research Institute, Cuttack-6.

To study the influences of *Heterodera oryzicola* on the multiplication of *Meloidogyne graminicola* and vice versa, inoculations were made to 10 days old plants of rice var. CRM 13-3241, separately, simultaneously and one nematode inoculation followed by the other 7 days after in different combinations. Observations were taken on the 7th, 22nd, 37th and 52nd day after inoculations. It was observed that the larvae of *M. graminicola* hatched and invaded the roots earlier than the *H. oryzicola* larvae. No significant differences were found in the multiplication of *M. graminicola* in different levels of inocula or in different combinations with *H. oryzicola*. Multiplication in the individual inoculation of *H. oryzicola* treatments was found to be superior to the treatments in which *H. oryzicola* was given simultaneously with *M. graminicola* or *H. oryzicola* inoculation followed by *M. graminicola* after 7 days.

EFFECT OF LIGHT OF DIFFERENT WAVE LENGTHS ON SOIL EXTRACTION OF *MELOIDOGYNE INCOGNITA* BY IMPROVED BAERMAN FUNNEL METHOD : S. D. Basu, B. Gope and B. Banerjee, Tea Research Association Tocklai Experimental Station Jorhat, Assam.

Improved Baerman Funnel technique under exposures to artificial light significantly increases extraction of root-knot nematodes from soil, though

amongst themselves, lights of different wave lengths did not show any significant difference in their effects on extraction efficiency. Exposures of light for 4 hours and 24 hours significantly influenced the extraction efficiency.

INTER RELATIONSHIPS OF INFECTIVITY BETWEEN THE BURROWING AND ROOT KNOT NEMATODES IN BLACK PEPPER, PIPER NIGRUM L : M. S. Sheela and T. S. Venkitesan* Department of Entomology, College of Agriculture, Kerala Agricultural University, Vellayani - 695 522.

In Kerala serious damage to black pepper crop is caused due to infestation by the burrowing nematode, *Radopholus similis* and the root-knot nematode, *Meloidogyne incognita*. These species have been observed to infest the vines jointly as well as separately. A pot culture experiment was conducted to study the relative infectivity of these nematodes under the above situations. One thousand nematodes/1.51L. of soil as initial inoculum separately, jointly or in succession was tested under six treatments.

The treatments involving nematodes either in combinations or othewise suppressed the growth of vines. Simultaneous inoculation of both nematodes suppressed plant growth to the maximum extent. Inoculation of *R. similis* and *M. incognita* in succession led to the reduction in leaf area, internode length, top and root development. The population build up of the nematodes was found to be accelerated when the two species were inoculated separately and there was decline in the population under combined inoculations. The root gall development was suppressed in plants inoculated with *M. incgnita* and *R. similis* in succession.

HOST RANGE OF THE SPIRAL NEMATODE *HELICOTYLENCHUS ABUNAAMAI* : N. N. Padhi and S. N. Das, Department of Nematology, Orissa University of Agriculture and Technology, Bhubaneswar-751003.

Of the 61 plant types, belonging to 21 families, tested in replicated pot culture experiment as possible hosts of *Helicotylenchus abunaamai*, 38 botanical species were found to be susceptible and favourable hosts taking into consideration of multiplication of the initial level of nematode inoculum. The highest nematode

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