INTEGRATED CONTROL OF *MELOIDOGYNE INCOGNITA* ON BRINJAL : K. John Kuriyan and M.S. Sheela, College of Agriculture, Vellayani.

The effect of cultural operations and nematicides as nursery treatment and as spot application in the control of root-knot nematodes, *M.incognita* on brinjal was studied in a field trial. Normal digging (10cm), deep digging (20 cm), nursery treatment of metham sodium @ 25 ml/sq.m. and spot application of aldicarb @ 1 kg a.i./ha at the time of transplanting were tried in different combinations.

The growth parameters like number of leaves, height of plants, shoot weight and root weight showed no significant difference in the main field. However, at final harvest of the plants normal digging plus nursery treated seedlings plus aldicarb applied plants gave a significantly higher number of leaves. Also, deep digging plus nursery treated seedlings plus aldicarb applied plants gave the highest shoot and root weight of 136.5 g and 16.68 g, respectively.

The yield did not vary significantly between treatments, but normal digging plus nursery treated seedlings plus aldicarb applied plants gave the highest yield of 13.63 kg from 25 plants, closely followed by deep digging plus nursery treated seedling plus no aldicarb application, with 13.3 kg from 25 plants.

Though the soil nematode population was not significantly different between treatments, deep digging plus nursery treated seedlings plus aldicarb applied plants had the minimum number of root-knots and minimum number of root population between treatments. This indicates that deep digging decreases the nematode population prior to transplanting and when the seedlings raised from nematicide treated nursery, are transplanted, there is less chance of increase of nematodes.

CHEMICAL CONTROL OF ROOT-KNOT NEMATODE, *MELOIDOGYNE INCOGNITA* ON BRINJAL BY NURSERY TREATMENT : Susannamma Kurien and K. John Kuriyan, College of Agriculture, Vellayani.

The effect of nursery treatments on brinjal seedlings and their subsequent performance in a root-knot nematode infested field was studied with four chemicals, viz. DBCP @ 3ml. a.i./sq.m, metham sodium @ 15,20 & 25ml/sq.m, carbofuran @ 0.2, 0.3 & 0.4 g/sq.m. and temik @ 0.2, 0.3 & 0.4g/sq.m. Seeds of brinjal (local) were sown in nematicides treated nursery beds. Seedlings were uprooted on the 30th day after sowing and transplanted in the corresponding plots for each treatment in the main field. The performance of these plants were compared.

All the seedlings, except in check, were free of root-knots. There was significant increase of 49.2 to 54.4% in number of leaves over check, 10.7 to 16.4% in height of plants over check and 36.38 to 39.4% in weight of 25 seedlings, over check. In the main field, plants raised from seedlings treated with carbofuran at 0.4g/sq.m, aldicarb at 0.4g/sq.m. and metham sodium at 25 ml/sq.m gave significantly superior results of characters studied. The number of leaves increased over check by 101.8% with carbofuran @ 0.4g/sq.m, 69.3% with aldicarb @ 0.4g/sq.m. and 68.5% with metham sodium @ 25 ml/sq.m. There was an increase of 60.4% shoot weight with carbofuran @ 0.4g/sq.m., 51.1% with aldicarb @ 0.4g/sq.m and 47.8% with metham sodium @ 25ml/sq.m., over check. The root weight also significantly increased by 43.8% with carbofuran @ 0.4g/sq.m., 40.4% with aldicarb @ 0.4g/sq.m and 37.4% with metham sodium @ 25 ml/sq.m. over the check plants. The number of fruits and weight of fruits were incereased by 84.0% and 66.9% with carbofuran @ 0.4g/sq.m., 63.9 % and 97.2% with aldicarb @ 0.4g/sq.m. and 69.5% and 68.7% with metham sodium @ 25ml/sq.m.

The total number of galls in each plant was reduced by 71.2% with carbofuran @ 0.4g/sq.m., 68.4% with aldicarb @ 0.4g/sq.m. and 57.4% with metham sodium @ 25ml/sq.m. Soil population of plant parasitic nematodes including *M. incognita* was also found to be reduced by 20.0 to 50.1% in nematicide treated plants over the check.

EVALUATION OF SYSTEMIC CHEMICALS FOR THE CONTROL OF ROTYLENCHULUS RENIFORMIS ON PAPAYA : G. Rajendran and T. G. Naganathan, All India Coordinated Fruit Improvement Project, Tamilnadu Agricultural University, Coimbatore-641 003, India.

The reniform nematode *Rotylenchulus reniformis* was found highly pathogenic to papaya in India and Hawaii and responsible for papaya decline in Hawaii. There is meagre information on the control of this nematode in papaya with systemic nematicides. Investigations were carried out to evaluate the systemic chemicals for the control of this nematode and it was found that carbofuran at the rate of 2 Kg a.i./ha significantly increased the yield by 38.4% over the control, closely followed by aldicarb sulfone and aldicarb. It was also observed that there was significant reduction in soil nematode population six months after the treatment compared to pre-treatment population in field condition. Pot culture studies also revealed that there was significant reduction in soil population by aldicarb and disulfotan treatments. In the nursery application of phorate and fensulfothion at the rate of 0.4 g a.i./m^2 increased shoot height and vigour of the seedlings.