

level of non-infested plants. The rhizobial nodulation did not improve plant growth in the absence or presence of nematode but in the presence of nematicidal seed treatment rhizobial inoculation caused further improvement in growth.

CYST NEMATODE, *HETERODERA ORYZICOLA* ON RICE IN KERALA.

II. CONTROL OF *H. ORYZICOLA* ON RICE BY SEED TREATMENT :

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Pot culture experiment on rice was conducted for controlling the cyst nematode, *H. oryzicola* by dibbling the seed direct after treatment with nematicides. The seeds were treated with carbofuran, aldicarb-sulfone, phenamiphos, dibutylaminosulfanyl carbofuran (FMC) and phorate at 0.02% by soaking the seeds in a suspension of each for 12 hours.

The height of the plant increased by 33.17% with phenamiphos, 31.05% with FMC, 26.65% with carbofuran, 22.62% with aldicarb sulfone and 7.58% with thimet. The number of tillers increased by 97.81% with phenamiphos, 83.94% with FMC, 79.56% with carbofuran, 77.37% with aldicarb-sulfone and 70.07% with thimet. The number of leaves increased by 37.13% with phenamiphos, 36.74% with FMC, 36.61% with carbofuran, 26.91% with aldicarb-sulfone and 24.45% with thimet. The shoot weight and root weight increased by 62.11 and 56.52% with phenamiphos, 40.78 and 53.04% with FMC, 27.88 and 45.23% with carbofuran, 25.66 and 45.79% with aldicarb-sulfone and 15.67 and 22.61% with thimet-respectively. The yield and grain weight per plant increased by 71.65 and 91.84% with phenamiphos, 49.47 and 65.27% with FMC, 46.65 and 60.67% with carbofuran, 23.77 and 33.05% with aldicarb sulfone and 22.36 and 29.71% with thimet, respectively. There was also a corresponding decrease in nematode population and cyst population of 78.26 and 65.63% with phenamiphos, 74.41 and 59.18% with FMC, 70.57 and 58.14% with carbofuran, 65.55 and 50.12% with aldicarb sulfone and 63.88 and 33.90% with thimet respectively.

Phenamiphos at 0.02%, was superior over the other nematicides tried, as evidenced by the improvement of plant growth characters and increase in yield, coupled with reduction in nematode population. The results obtained by the other nematicides under study also were significantly superior in comparison to untreated plants.