SUMMARY

Evaluation of plant extracts in the control of phytoparasitic nematodes associated with gardenia (*Gardenia jasminoides* Ellis) cultivation

Cultivation of gardenia at Fortín Veracruz region is affected by phytoparasits as nematodes, that cause deformations in roots and economic losses to farmers. Due to this, the objective of this work was to evaluate the nematicidal effect of plant extracts on nematodes associated to the gardenia (*Gardenia jasminoides* Ellis) cultivation. Extracts were obtained from dehydrated leaves of *Leucaena leucocephala*, *Hyptis suaveolens* and *Ricinus communis*. Leaves of each species were pulverized and macerated on hexane, chloroform, ethyl acetate and ethanol during five days with light protection, later they waere filtered and the volume was reduced using rotovap, until obtaining 150 mL of each extract, the extracts were conserved in amber bottles. In order to select extracts, greater presence of secondary metabolites phytochemical tests were performed. Ten nematodes obtained from infested soils were introduced in a Petri dish with with 1 mL of water. Then 2 mL of the higher secondary metabolites extracts were added in order to test nematodes mortality. Five concentrations of each extract (20, 40, 60, 80, 100%), a posive (water) and negative (carbofuran) controls were used. Samples were observed after 1, 4, 12 and 24 h of exposure to the extracts. Experiment evaluation was performed using a completely randomized factorial design. In the four reading times, the extract with the highest nematicidal effect was *Ricinus communis* obtaining the highest mortality with 100%, in all its concentrations. On the other hand, *Hyptis suaveolens* presented a 80% average of dead nematodes with the 80, 100% concentrations. Finally, *Leucaena leucocephala* presented an average of 60% of dead nematodes in the same concentrations as *Hyptis suaveolens*. In this investigation, the three plants evaluated showed a nematicidal effect.

Key words: Plant extract, *in vitro*, phytoparasitic nematodes, nematicide, *Gardenia jasminoides*