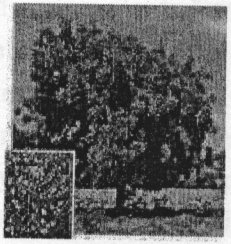
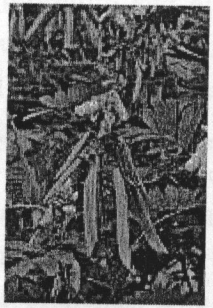
 # 7.1.1.1 Ndake, Pili O. (1998). Neem (*Azadirachta indica* (A.) Juss.) and fishbean (*Tephrosia vogelii* Hook) extracts as tomato (*Lycopersicon esculentum* Mill.) nematicide in Zambia. (Supervisor: Prof. J. Zulu).

Root-knot nematode (*Meloidogyne* spp.) are a serious problem of tomato production in Zambia and therefore need cheap and accessible control measures for the small scale farmer. In this study, two experiments were conducted in the screen house. The first experiment was to establish the nematode population threshold levels which would significantly affect the growth of tomato and/or reduce its yield. Plants were inoculated with varying nematode population densities (50, 100, 150 and 200 nematodes per cm^3 per plant). The uninoculated plants acted as a control group. A Completely Randomized Design with four replicates was used. All levels of nematode population showed significant increases in gall index than the control and reduced fruit weight. The second experiment was to determine the efficacy of neem and fishbean extracts on root-knot nematode of tomato. Both plant extracts were applied at the rate of 60, 90 and 120kg/ha. Furadan (5%G) which was applied at the rate of 2, 4 and 6kg/ha was used as a standard. A nematode density of 87 nematodes per cm^3 was applied per plant. Untreated plants which were inoculated with nematode acted as the control, in a Completely Randomized Design with three replicates. Neem was as effective as Furadan in reducing of galling on tomato roots. They both improved the fruit weight of the crop significantly. However, it is not clear what the effect of the treatment with neem had on the fruit numbers. The result of fishbean on the other hand were inconclusive because at lower levels (60kg/ha) it promoted growth of root-knot



Neem tree



Fishbean

nematode while at higher concentrations (120kg/ha), it showed some potential to reduce root-knot nematode. Therefore, there is need for further investigation to ascertain its potency