

## ABSTRACTS - - RESUMENES

ULTRA-HIGH FREQUENCY ELECTROMAGNETIC ENERGY AS A MEANS FOR NEMATODE CONTROL [ENERGIA ELECTROMAGNETICA DE ULTRA-ALTA FRECUENCIA COMO UN MEDIO PARA CONTROLAR NEMATODOS]. C. M. Heald and J. R. Wayland. Subtropical Texas Area, Southern Region, Agricultural Research Service, U. S. Department of Agriculture, P. O. Box 267, Weslaco, TX 78596 and Physics Department, Texas A&M University, College Station, TX 77843 - - - The reniform nematode (*Rotylenchulus reniformis*) was controlled to depths of 10 cm in field soil with applications of 732 joules/cm<sup>2</sup> and 366 j/cm<sup>2</sup> levels of UHF energy. Levels of 183 j/cm<sup>2</sup> controlled populations at 5 cm only. Soil temperatures were recorded at time of soil treatment, 10, 20, 30, and 60 minutes after treatment. Temperatures were dependent on energy level and were limited by soil depth. At 5-cm depth, 95 C was recorded at time of treatment in the high energy level plots while 62 C (5-cm depth) was recorded in the low energy level plots. Hot water temperature trials in the laboratory showed that populations of the reniform nematode were reduced at temperatures of 40 C after 10 min and 45 C after 5 min exposure. Temperatures of 50 C and above eliminated the nematode. Generally, populations were eliminated in soil at depths where temperatures exceeded 50 C, however, exceptions indicated that the lethal effects of UHF energy could be non-thermal as well as thermal.

EFFICACY OF NEMATICIDES APPLIED THROUGH MICRO-PORE TAPE [LA EFICACIA DE NEMATICIDAS INYECTADAS POR LA IRRIGACION DE GOTEO]. A. J. Overman, Agricultural Research & Education Center, Bradenton, Florida 33505 - - - The shortage of quality water supplies and fertilizer materials for agricultural purposes has stimulated the development of micro-pore and trickle irrigation systems designed to conserve both water and plant nutrients. Introduction of these systems into the cultural management of vegetables grown under impermeable mulch on well-drained sandy soil prompted research into the efficacy of "contact" or systemic nematicides injected into the system rather than incorporated into the soil. Three "contact" nematicides (ethoprop, fensulfothion, and carbofuran at rates equivalent to 11.2 kg/ha) were injected as liquids into micro-pore tape (Viaflo<sup>®</sup>) operating in a 76 cm wide raised bed or incorporated as granules into the soil and sealed with a laminated poly-paper mulch at planting. The contact materials were added to each increment of water released through the tape for 9 wks of the crop season. Oxamyl was injected into the system for the first 2 or 9 wks of the season, the former resulting in a 3.4 kg/ha, the latter in a 15.7 kg/ha rate. All treatments significantly increased tomato yields. Application through the micro-pore tape gave better results than soil applications of ethoprop and carbofuran. Efficacy of fensulfothion was not affected by method of application. Oxamyl applied during the 9-wk period gave excellent control of *M. incognita* and increased tomato yields 300%. Severe infections of *M. incognita* which followed the 2-wk application of oxamyl restricted increase in yield to only 140%.