Pak. J. Nematol., 15 (1 & 2): 71 – 87, 1997.

EFFECT OF SOIL SOLARIZATION BY POLYETHYLENE SHEETS ON GROWTH OF NAVEL ORANGE AND CONTROL OF CITRUS NEMATODE *TYLENCHULUS SEMIPENETRANS*

A.E. ISMAIL, M.H. GHALI*, F.G. NAKHLLA AND H.Z. ABOUL-EID**

National Laboratory, Plant Pathology Department,
National Research Centre, Egypt.
**Institute of Efficient Productivity,*
Soil Department, Zagazig University.
***Horticulture Research Institute, Agricultural Research Centre.*

Abstract

Soil solarization with 80 or 160 um transparent or black polyethylene sheets with 50, 75 and 100% soil cover during June, July and August under 6 year-old Washington Navel orange(*Citrus sinesis* Osbeck) significantly reduced soil and root populations of *Tylenchulus semipenetrans* by 9.3-95.8% compared to non mulched soil surface. Soil solarization, either with transparent or black sheets substantially increased soil temperature, soil moisture, heat stored and significantly reduced nematode infestations. Root, vegetative growth and yield parameters were significantly less in non mulched treatments whereas mulched treatments increased number and length of absorbing roots, amount of growing roots, root growth activity index, number fruit weight and yield. Quality of fruit juice also improved in the soil mulched treatments.