The effect of soil solarization to control of root-knot nematode Meloidogyne spp on protected crops in Albania

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INTRODUCTION

Vegetables in Albania are produced on total area of 36.000 ha. Greenhouse vegetable production is important for fresh vegetable, although greenhouses comprise only 1.9 % of the total vegetable area. The common and most widespread root-knot nematode is *Meloidogyne incognita* which may cause severe reduction in crop yield.

METHOD

The best method used against Meloidogyne incognita is the soil solarization. This method is used during years 1997 - 2000, in sandy soil in Durres Albania glasshouse.
The soil is irrigated and plought just after harvest. A thin white polyethylene sheet, 0,08 mm is spread over the soil, and its edges are covered with sandy soil in the 10–15 cm deep. The polyethylene sheet is left undisturbed for a period of four to seven weeks from July - August. At the end of this period, the sheet were removed.

RESULTS

Maximum soil temperature achieved under solarization plots were 53,1 to 49,2°C resp. at depths 10 - 20 cm and 45 to 38 °C for uncovered plots.
Nematode populations were reduced significantly from 49 to 93 %. All variants with soil solarization were significantly better than the control.
Solarized soil registred 8–10° C the higher maximum temperatures, compared with non solarized soil.
During the years 2001-2005 in many districts on protected crops, are used 6 ha soil solarization, with white polyethylene sheet 0,06-0,08 mm. Maximum soil temperatures achived under soil solarization were 55 to 47° C resp. at depths 10–20 cm.

CONCLUSION

Several experiments were conducted to compare the effectiveness of soil solarization with that of several chemicals. Moreover when soil solarization was combined with low rates of Fenamiphos (six weeks with soil solarization + 150 kg/ha Fenamiphos), the control of root - knot nematode Meloidogyne spp was really excellent.

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