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Effects of Soil Solarization and Organic Amendment Treatments for Controlling Meloidogyne incognita in Tomato Cultivars in Western Anatolia

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Abstract: The efficacy of soil solarization, Dazomet, chicken manure (CM), olive processing waste (OPW), and soil solarization in combination with CM or OPW or half doses of Dazomet against Meloidogyne incognita on tomato cultivars was investigated in greenhouses in western Anatolia, Turkey, between 2002 and 2004. The maximum soil temperature average was increased 47.1 °C by soil solarization alone at the 15 cm soil depth of soil in the first year. Soil solarization alone and in combination with CM increased the mean of maximum soil temperature by 41.2 and 40.9 °C respectively, at the 15 cm soil depth in the second year. Root galling caused by M. incognita in tomato plants in the soil solarization plus organic amendment plots (CM or OPW) was lower than in plots that underwent the other treatments. In addition, tomato yields in plots subjected to soil solarization and soil solarization in combination with organic amendment (CM or OPW) were similar to those in plots subjected to Dazomet and soil solarization plus half doses of Dazomet.

Key Words: Meloidogyne incognita, chicken manure, olive processing waste, soil solarization, Dazomet, tomato

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