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Methyl Bromide Alternatives for Controlling Meloidogyne incognita in Pepper Cultivars in the Eastern Mediterranean Region of Turkey

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Abstract: The efficacy of soil solarization in combination with Trichoderma spp. (S+Tr), dazomet (S+D 300, 400 and 500 kg ha⁻¹ of dosages) and fresh chicken manure (S+CM 12.5 t ha⁻¹) as methyl bromide (MB) alternatives against root-knot nematodes on pepper cultivars was investigated in plastic greenhouses in the eastern Mediterranean Region of Turkey. Soil solarization for 6 weeks increased soil temperature by 8.4 and 7.8 °C at 10 cm soil depth in 2000 and 2001, respectively. Second stage juvenile (J2) populations of M. incognita were efficiently reduced by S + Tr, S + D300, S + D400, S + D500, S + CM, and MB treatments until May 16 in both the first and second years. However, J2 population began to increase after February in untreated control plots. Root gall indices were low (0.7 to 1.9) in all treatments except untreated control where gall index was approximately 6 (0 to 10 galling index scale). All the alternative treatments to MB effectively suppressed the damage of root-knot nematodes during the entire vegetation period. Yield values were not significantly different between alternative treatments and MB in the experiments.

<u>Key Words:</u> Chicken manure, dazomet, methyl bromide, pepper, root-knot nematode, soil solarization

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