CONTROL OF TOMATO WILT WITH SOLARIZATION AND METHYL BROMIDE OR TRICHODERMA HARZIANUM

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Solar heating of the soil (by polythylene mulching) alone (solarization) or in combination with trichoderma harzianum or with a reduced dose of methyl bromide, when tested under field conditions, significantly reduced fusarium wilt disease of tomato caused by Fusarium oxysporum f.sp radicis-ycopersici. T. harzianum or methyl bromide applied alone were not as effective solarization in combination with either T. harzianum or methyl bromide in protecting the tomato plants from wilt.

Soil fumigation with a sub-lithal dose of methyl bromide (300 kg ha-1)provided the same degree of protection as the recommended dose of 750kg-1. The biocontrol agent T. harzianum reduced, F. oxysponrum disease. Combining solar heating with methly bromide or T. harzianum improved their efficiency and also resulted in the control of F. oxysporum.

Maximum disease control was obtained with a combination of T. harzianum and solarization. Treatments that resulted in disease control also elicited a significant yield increase (P= 0.05). The highest improvement yield improvement was recorded in plots where T. harzianum has been applied in combination with solar heating. Both T. harzianum and sublithal dose of methyl bromide reduced the inoculum potential of F. oxysporum and its build up in the field.

This was more pronounced when the two treatments were combined with soil solarization. Methly bromide, T. harzianum or solar heating killed 68-100% of the F. oxysporum spores in the soil during treatment. Combining solar bromide resulted in 88-100% killing of F. oxysporum spores. Integrated control of fusarium wilt disease in tomato caused bt F. oxysporum F. sp radicis-lycopersici was achieved by a combination of soil solarization with T. harzianum or with a sublithal dose of methyl bromide.