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In field control of Botrytis cinerea by synergistic action of a fungicide and organic sanitizer
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Abstract
A new Integrated Pest Management program based on the combination of synthetic pesticide with a GRAS (generally recognized as safe)-classified sanitizer for the control of Botrytis cinerea in field conditions was described. The aim behind this research was to determine whether the use of this mixture would enhance the efficiency of pesticides while decreasing the recommended dose. Naturally infected tomato plants, grown in the greenhouse, were treated with two commonly used fungicides SWITCH (Syngenta, Switzerland) and SIGNUM (BASF, Germany) each alone or combined with a commercially available organic sanitizer PERACLEAN®5 (Evonik Industries, Germany). A total of 27 treatments were tested consisting of three concentrations of synthetic fungicide (×1, ×1/2 and ×1/4 of the recommended dose) either applied separately or combined with three concentrations of the tested sanitizer (0.5, 1 and 1.5%). The control efficacy achieved by the fungicides applied alone ranged between 0 and 66.7% while all fungicide-sanitizer mixtures resulted in up to 70% control of grey mould. The treatment that provides the maximum control of B. cinerea was the result mixture of ×1/4 of the recommended concentration of SWITCH (15 g L−1) with 0.5% of PERACLEAN®5. This combination suppressed 85% of grey mold infections while decreasing the usually used amount of this pesticide by 75%, reducing therefore the well known negative impacts of chemical pesticides on environment and consumers health. © 2018 CAAS. Publishing services by Elsevier B.V

Author Keywords
Botrytis cinerea; PERACLEAN®5; peroxyacetic acid; SIGNUM; SWITCH; tomatoes

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