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[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1349-0923

PRINT ISSN : 1348-589X

Journal of Pesticide Science

Vol. 32 (2007) , No. 2 pp.83-88

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Control efficacy of validamycin A against Fusarium wilt correlated with the severity of phytotoxic necrosis formed on tomato tissues

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(Received: October 16, 2006)

(Accepted for publication: January 5, 2007)

Abstract:

Employing 20 race 2-susceptible tomato cultivars, the effect of validamycin A (VMA) treatment on the disease severity (DS) of Fusarium wilt (race 2), salicylic acid (SA) concentration, and plant injury index (PT) was examined. Statistical analysis of the obtained results suggested a negative correlation between the amount of SA and DS without VMA treatment, and between PT and DS with VMA treatment. PT with VMA treatment was positively correlated with the amount of SA with/without VMA treatment. Moreover, the possibility of the rapid screening of plant activators using phytotoxicity as a marker of plant-activator-sensitive cultivars was suggested. The intensity of enhanced systemic acquired resistance (SAR) may depend on the genetic background of each cultivar and its quantity of SAR gene expression.

Keywords:

plant activator, tomato cultivars, *Fusarium oxysporum* f. sp. *lycopersici*, salicylic acid, disease severity, phytotoxicity

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Ryo Ishikawa, Kentaro Shirouzu, Hideo Nakashita, Tohru Teraoka and Tsutomu Arie,
“Control efficacy of validamycin A against Fusarium wilt correlated with the severity of
phytotoxic necrosis formed on tomato tissues”. *J. Pestic. Sci.* Vol. **32**, pp.83-88 (2007) .

doi:10.1584/jpestics.G06-37

JOI JST.JSTAGE/jpestics/G06-37

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[View "Advance Publication" version \(March 20, 2007\).](#)



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