

园艺—研究报告

甜瓜残茬腐解物对镰孢枯萎病的助长作用

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摘要:

为了明确甜瓜残茬腐解物和甜瓜连作对甜瓜的化感作用,笔者研究了甜瓜枯萎病株根系残茬腐解物对枯萎病菌菌丝生长和孢子萌发以及甜瓜连作对枯萎病发生程度的影响。结果表明,甜瓜枯萎病发病越重,其病株根系残茬腐解物对枯萎病菌孢子的促进作用越强,高浓度健株、轻病株和重病株根系残茬处理的产孢量分别比对照增加了29.98%、53.44%和48.51%;健株根系残茬处理可使甜瓜枯萎病病菌孢子萌发率提高15.82%~37.86%。甜瓜健康植株残茬腐解物降低了甜瓜的抗病性,接种甜瓜枯萎病原菌后,随着植株根系残茬腐解物含量的增加,甜瓜枯萎病逐渐加重。100%重茬种植土壤的甜瓜植株地上部重和地下部重分别降低179.23%和249.16%,发病率提高77.27%。野生木霉菌和REMI突变体均可通过降解甜瓜残茬有效地缓解其毒害作用,在一定程度上抑制甜瓜枯萎病的发生。

关键词: 助长作用

Promotive Effects of Muskmelon Survival on Fusarium Wilt

Abstract:

To explore the allelopathy of muskmelon decaying substances and continuous cropping on muskmelon, this paper studied the effect of decaying substances on *Fusarium oxysporum* mycelia growth and spore emergence of continuous cropping of muskmelon on Fusarium wilt through pot experiment in greenhouse. The results showed that the much higher muskmelon wilt disease incidented, the more significantly the diseased survival inhibited growth of the next decaying stubble. Compared with CK, quantity of spores of healthy plants, mild diseased plants and severe diseased plants increased 29.98%, 53.44% and 48.51%, respectively. Spore emergence ratio increased 15.82%-37.86%. The resistance of muskmelon was reduced by its root's decaying substances. After inoculation with *Fusarium oxysporum*, disease of Fusarium wilt aggravated and the growth of muskmelon declined with the content of decaying substances increasing. 100% muskmelons continuous cropping decreased shoot weight 179.23%, root weight 249.16% respectively, while ratio of diseased plants increased 77.27%. 20 wild isolates and 20 REMI mutants of *Trichoderma* obtained by screening of method of fungi growth, could be degraded muskmelon survival, alleviated its autotoxicity, and reduced Fusarium wilt of muskmelon.

Keywords: promotive effects

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