

植物保护-应用研究

杀菌剂对甘薯致病菌Hypocrea sp. SP-4和Rhizopus stolonifer SP-1生长影响研究

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摘要:

为了研究杀菌剂对甘薯致病菌Hypocrea sp. SP-4和Rhizopus stolonifer SP-1生长的抑制效果, 本文从腐烂的甘薯块根中分离到的匍枝根霉SP-1 (Rhizopus stolonifer SP-1) 和Hypocrea sp. SP-4的孢子接种在含有不同杀菌剂浓度的PDA培养基上, 在13℃和28℃条件下培养。同时也将2种孢子接种在甘薯块根上, 进行培养观察。结果表明: 2株真菌低温条件下, 在不含杀菌剂的培养皿上的生长速度明显比28℃条件下要缓慢些; 甲基托布津和多菌灵对Hypocrea sp. SP-4和R.stolonifer SP-1生长抑制的稀释度分别为1000倍和500倍。在28℃条件下, 2种杀菌剂对Hypocrea sp. SP-4都有良好的抑制效果, 但对R.stolonifer SP-1抑制率, 甲基托布津只有21%, 多菌灵则有58%。在用杀菌剂抑制甘薯块根侵染的过程中还发现, 甘薯块根在没有创伤的情况下, 2株真菌在低温条件下不会引起腐烂, 说明它们是通过伤口侵染甘薯块根的。综合几个指标可以得出: 适度低温和避免甘薯块根出现伤口能够减少甘薯块根被真菌侵染。

关键词: 甘薯; 匍枝根霉; 肉座菌; 甲基托布津; 多菌灵

Studies on Influence of Fungicide on Growth of Hypocrea sp. SP-4 and Rhizopus stolonifer SP-1 of Pathogenic Bacteria of Sweet Potato

Abstract:

In order to study on influence of fungicide on growth of Rhizopus stolonifer SP-1 and Hypocrea sp SP-4 of pathogenic bacteria of sweet potato, spores of Rhizopus stolonifer SP-1 and Hypocrea sp SP-4 isolated from spoilage root tuber of sweet potato were inoculated on PDA medium plate and root tuber of sweet potato including different concentrations of fungicide, and cultivated at 13℃ and 28℃. The results showed that they grew more slowly at 13℃ than 28℃. Dilution concentration of thiophanate-methyl and carbendazol to inhibit the growth of Hypocrea sp SP-4 and R. stolonifer SP-1 is 1000 and 500-fold, respectively. Both fungicides could efficiently inhibit the growth of Hypocrea sp SP-4. However, the inhibition rate of thiophanate-methyl and carbendazol to R.stolonifer SP-1 is 21% and 58%, respectively. The results also showed in the course of fungicide inhibiting the infection of root tuber of sweet potato by the above two fungi, it didn't become rotten at low temperature if the root tuber of sweet potato did not have wound, indicating that they infect root tuber of sweet potato through the wound. Comprehensive analysis show that the infection of root tuber of sweet potato by fungi could be reduced by moderate low temperature and avoiding wound of sweet potato.

Keywords: sweet potato; Rhizopus stolonifer ;Hypocrea thiophanate-methyl carbendazol

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