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In Vitro Efficacy of Fungicides and Disease Severity of Cultivars against Fusarium Root Rot on Sweetpotato

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[Introduction]
Fusarium root rot of sweetpotato is a devastating disease caused by *Fusarium solani* during storage after harvest and reduces marketability. Therefore, in order to develop control techniques for fusarium root rot, fungicide efficacy was tested *in vitro* and disease severity was evaluated on major domestic cultivars.

[Materials and Methods]
In the previous experiment, pathogenicity tests were performed on *F. solani* strains collected from storages located in the main sweetpotato production regions. Subsequently, SPL21019, the strongest pathogenic strain, was selected as a representative strain. The inhibitory efficacy of fungicides was measured in the PDA medium amended with a tested fungicide at various concentrations. The width and depth of diseases were investigated after wounding sweetpotato tubers and placing mycelial plugs on that.

[Results and Discussion]
The results showed differences in mycelial growth depending on the concentration of fungicide. At the concentration of 10ppm, prochloraz copper chloride, prochloraz manganese, and flutolanil showed high mycelial growth inhibitory effect of 98.70%, 93.42%, and 96.11%, respectively. Depending on the cultivars, the width and depth of the diseases symptoms were different. Compared to other cultivars, ‘Jinyulmi’ had smaller symptoms, and ‘Sodammi’ had larger symptoms. The results indicated that additional experiments on infected soil and tubers could be used to control fusarium root rot. Morover, additional resistance tests for genetic resources are needed to develop disease resistant varieties.

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