

Preliminary Studies of Safety Plant Protectants on Control of Powdery Mildew and Downy Mildew of Small Cucumber

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Abstract

Small cucumber belongs to a continuous harvesting vegetable. The issue of pesticide residues on these vegetables have been concerned by consumers in Taiwan. Using safety materials for disease control is one of methods for reducing pesticide residues. Powdery mildew and downy mildew are common diseases in cultivation of small cucumber. In this experiment, the effect of several safety materials on control of powdery mildew and downy mildew assessed in greenhouse and open field. The results showed that use of mixture solution of narrow range oil and phosphite or narrow range oil and potassium bicarbonate can effectively prevent the cucumber plants from infection of powdery mildew. Especially in a greenhouse and open field cultivation condition, the disease severities of powdery mildew with those treatments were equal to or better than that of chemical fungicide, triflumizole. Using mixture solution of narrow range oil and phosphite also had a control effect on downy mildew. Other safety materials in this study also reduced the disease severity of powdery mildew and downy mildew and increased 2.6-90% of yield compared with none treatment(CK). The results of this study could provide a helpful information for production of so called safety good in the future.

Key words: small cucumber, safety materials, powdery mildew, downy mildew, disease control

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