Biological Control of Cotton Aphids by Single versus Multiple Species of Natural Enemies in Greenhouse Cucumber

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Cotton aphid is one of problematic insect pests in cucumber greenhouse because of its high rate of population growth and resistance development, and also its direct and indirect damage on cucumber. This study tried to evaluate the biological control effects when a single biological control agent species was introduced versus multiple species were introduced. Four treatments of parasitoid only, predator only, multiple species and control were repeated 3 times at different season and region. Test species were *Aphidius colemani* Viereck and *Chrysopa pallens* Rambur against *Aphis gossypii*. Results showed the significant additive effects on both species if added another species. However, overall biological control was not achieved resulting in higher population density over the economic damage levels. To enhance biological control and its reliability, release methodology such as release timing, release rate, developmental stage of biological control agents should be further discussed.