

#### 4-9. Potential of Entomopathogenic Fungi, *Verticillium lecanii* Strain CS-625 as a Biological Control Agent of Cotton Aphid(*Aphis gossypii*)

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Cotton aphid(*Aphis gossypii*) is one of the most important insect pests of vegetable crops in Korea. The potential for biological control by the hyphomycete fungi, which include two isolates of *Beauveria bassiana*, one isolate of *Verticillium lecanii* and three isolates of *Paecilomyces* spp., was tested. Corrected mortality and time intervals required for 50% (LT<sub>50</sub>) of *A. gossypii* varied with fungal strain. *V. lecanii* CS-625 had the highest virulence for both conidia and blastospores against *A. gossypii* (PROC ANOVA; conidia, df=5,15; F=95.72; Pr>F=<0.0001 and blastospores, df=6,13; F=51.79; Pr>F=<0.0001). Mortality of cotton aphid caused by *V. lecanii* CS-625 varied with temperature (PROC ANOVA; F=134.72; df=3,19; Pr>F=<0.0001). Mortality at 20°C was lower than at 25 and 30°C. Application at  $1 \times 10^4 \sim 10^7$  conidia/ml showed relatively low mortality, but concentration of  $10^8$  conidia/ml showed about 100% mortality after 5 days (Pr>F=<0.0001). At 43% and 75% relative humidity(RH), the isolate had no control efficacy to cotton aphid, but showed 100% mortality over 97% RH.