

Biological control effect of the Green Lacewing, *Chrysoperla nipponensis* (Neuroptera: Chrysopidae) against *Pseudococcus comstocki*, the major scale insect pest of pear orchards in South Korea

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Scale insect pests, especially *P. comstocki*, are major pests of pear orchards in South Korea. The green lacewing, *Chrysoperla nipponensis* is one of the native natural predators being widely distributed in South Korea. We investigate the predation ability of *C. nipponensis* against the several insect pests in the laboratory, and the control effect of *C. nipponensis* against the *P. comstocki* on pears under orchard conditions from 2011 to 2013. *Chrysoperla nipponensis* goes through complete metamorphosis and the developmental time of larva takes 25.6 days ($20\pm 1^\circ\text{C}$, 60~70%, 16L:8D). These larva are particularly effective at controlling scale insects and can consume 440.2 *P. comstocki* nymphs in their larval stages. *Chrysoperla nipponensis* showed about 80% control of *P. comstocki* in pear orchards, when 90 larvae of *C. nipponensis* had been added to each pear tree over three times at 10 days intervals from the early May to the early July. Controlling the scale insect can lead to increases of yields and quality of pears.

