

3-3-11. Production of Vegetable Wasps and Plant Worms (Dongchunghacho) in the 5th Instar Silkworm Larvae, *Bombyx mori*, by Injection of *Paecilomyces tenuipes*

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The silkworm larval vegetable wasps and plant worms (Dongchunghacho) were able to be produced by injecting *Paecilomyces tenuipes* against day 1, day 3, day 5 and day 7 larva in the fifth instar of the silkworm, *Bombyx mori*. The normal larval growth during the 5th instar was greatly prevented or the larvae was dead shortly after at least the injection of 3×10^6 spores of *P. tenuipes* per larva of the fifth instar, and in the end the pupation was not made. The survival periods after the respective injection of 30 μl , 50 μl , and 70 μl of the inoculum with concentration of 108/ μl spores against larva were averagely two or three days. The duration required to forming endosclerotium ranged from 2.5 days to 6.5 days, and also the duration required to fruiting body formation after initial inoculation varied from 16 days to 25 days with the different injection timing during the fifth instar larval development. The infection ratios of *P. tenuipes* against the fifth instar larvae were 90~100% with the exception of injection on day 1 larvae of the 5th instar. The initial body weight before inoculation was lost to 44~72% until the time when the fruiting body formation was completed. The insides of mid-gut and silkgland within the 5th instar larval body were not infected with *P. tenuipes* due to the mulberry leave pieces in the gut and hardness of the gland, respectively. From these results, even though the production of silkworm larval vegetable wasps and plant worms is possible, it should be considered that the development of new inoculation methods for complete infection against all the tissues and organs including the mid-gut and silkgland is required, and also new labor saving inoculation instead of tedious injection method used is essential for practical application.