

Monitoring of Toxicants Affecting Metamorphosis of Silkworm in Mulberry Leaves

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The current study was performed to clarify the pupation disorder symptoms in silkworm which herbicide, molinate has been regarded as a causal origin. Molinate residues in mulberry leaves was monitored in major rearing area of silkworm; Yeacheon, Sangju and Namwon. Detected range of the molinate in mulberry leaves was 0.002 to 0.013 mg/kg and detection frequency was 30.0 to 81.8 %. Molinate concentration in the air of mulberry tree growing area was 0.004 $\mu\text{g}/\text{m}^3$. Water diluted solution of molinate at the concentration of 1, 10, 100 mg/l gave no abnormal symptoms in silkworm irrespective of spraying to silkworm or spiking to diet. Exposing the silkworm to the air containing 250, 2,500, and 10,000 $\mu\text{g}/\text{m}^3$ also revealed no abnormal symptom. These results illustrated that the abnormal growth of silkworm encountered in the field was not caused by pesticide contamination.