

The Poisoning of Silkworm influenced by Insect Growth Regulator Insecticides which are registered and on the market in Korea

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Since the spring of 1995, non-spinning silkworms occurred in Korea, and many silkworm raising farmhouses were economically damaged by wide occurrence of this phenomenon in 1998, 1999 and 2002. It seemed that IGR insecticides sprayed around the rearing farmhouse in the spring rearing season were a cause of this phenomenon. In Korea, 13 IGR insecticides were registered and are on the market. Thus the effects of these insecticides on silkworms were investigated. The results are as follows. Among the registered IGR insecticides, two ingredients of phenyl ether insecticides and carbamate insecticides induced non-spinning silkworms. The characteristics of non-spinning silkworms induced by these insecticides were same as those of silkworms occurred in the rearing farmhouses. Normally, sound silkworms pupate at 7th or 8th day of 5th instar, but non-spinning silkworms remain as larvae after 20th day of 5th instar, and show shape characteristics such as enlargement of body and silk gland. Two ingredients of benzohydrazide insecticides chemical showed poisoning syndromes such as decreasing and yellowing of body, thinning of annulus and becoming transparent. Each ingredient of thiadiazine and triazin insecticides showed poisoning characteristics of little body color change similar to control. Seven ingredients of benzoyl urea insecticides showed distinct poisoning syndrome by agricultural insecticides such as burst of body caused by thinning of skin, browning, prolapse of the anus.