

Monitoring of Pesticide Exposure in Cut Flower Farmers and Health Risk: Interview with Heavily Exposed Persons

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Sales of cut flowers depend much on outside appearance. They are not supposed to be foodstuffs, so pesticide is used more liberally for cut flower growing than for other agricultural products. When the annual group health checkups for cut-flower farmers were held in late-August in 2009, 2010, 2011, we sampled spot urines and measured four dialkylphosphates, the metabolites of the organo-phosphorous pesticide.

At one time, concentrations of dimethylphosphate in 2 males were around 1,000-fold as much as the median of this group. Their serum cholinesterase activity levels at that time declined to 64% and 72% of their average measurements in the other years. These figures were comparable to the level that the pesticidespraying procedure should be revised, as suggested by the agricultural worker health system in California, United States which monitored cholinesterase activity levels in farmers.

We had interviews with the two Japanese cut flower growers. One of them complained of unbearable cough with pyrethroid insecticide spraying. We advised him some measures in consideration of his history of respiratory disease. He decided not to use pyrethroid insecticides. Another man refused to talk about the pesticide exposure risk at first. But later on, we heard that he had decided to wear dust protective mask.

The risk communication using the measurement of the index of pesticide exposure seemed to be a effective way to decrease pesticide exposure and its adverse effect. Although this procedure needs some trained interviewers and is sometimes refused by farmer, we are going to continue this type of dialogue from now on.

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