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液体クロマトグラフィー/タンデム型質量分析法によるネオニコチノイド系殺虫剤チアクロプリド空中散布における飛散量分析の調査報告

Determination of Drift of Neonicotinoid Insecticide Thiacloprid Caused by Aerial Spraying by Liquid Chromatography-tandem Mass Spectrometry

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Summary:

An aerial application of neonicotinoid insecticide, thiacloprid, by a manned helicopter for controlling insect (*Monochamus alternatus* Hope) damage was carried out on pinewoods of Chikuma-city in Nagano Prefecture in June 2013. An investigation on thiacloprid drifts was conducted because many people reside near the applied area. Drifts in the air and in fallouts were collected at 4 locations near the applied area for three days after aerial spraying; and thiacloprid was quantified by liquid chromatography/tandem mass spectrometry. The result is that thiacloprid in the air was found from 4 locations at the maximum concentration of 1.9 ng/m³ per day. Thiacloprid in fallouts was quantitatively detected from 3 locations at the maximum amount of 7900 ng/m² over three days. The maximum drift ratio was calculated to be 0.066 %. The results confirmed that a low-level drift occurred after the aerial application by a manned helicopter. The results suggest that the combination of air concentration measurements and fallout monitoring improved the evaluation of residential exposure to neonicotinoid insecticide.

*同誌掲載論文より、抄録のみ収録いたしました。掲載誌の購読については、日本環境化学会様にお問い合わせください。