

Simple Screening Method for Pesticide Residues by Detecting Coexistent Adjuvants Using Potentiometric Measurement

Kaoru Umino, Masaaki Habara and Kiyoshi Toko*

Graduate School of Information Science and Electrical Engineering, Kyushu University,
744 Motoooka, Nishiku, Fukuoka 819-0395, Japan

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The screening method for pesticide residues by detecting anionic surfactants used as pesticide adjuvants was examined by membrane potential measurement using a surfactant-sensing membrane composed of tridodecylmethylammonium chloride. A sulfonate anionic surfactant, sodium dodecyl sulfate, was detected at under 10 ppb. In the experiments on pseudopesticides obtained by mixing standard pesticides (i.e., chlorfenapyr, imazalil, and glyphosate) and sodium dodecyl sulfate, our membrane showed no response to the active ingredients of the pesticides but showed a specific response to a coexisting surfactant, indicating the feasibility of our method as a primary screening method.

*Corresponding author: e-mail: toko@ed.kyushyu-u.ac.jp