

## Human exposure to surface pesticide residues: Dislodgeable foliar residues and pilot studies to predict bioavailability

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Harvesters are exposed potentially to chemical residues from surfaces (TSR) via contact-transfer following crop protection. The Iwata et al. (1977) procedure for determination of dislodgeable foliar residues (DFR) is standard and utilizes a weak detergent solution to wash residues from the surface of leaf samples. This chemical process contrasts with the predominantly physical contact-transfer that occurs in the field. We are investigating procedures to measure DFR and physical TSR (Transferable Surface Residue). An Automated Surface Wiper (ASW), intended to test color-fastness of textiles, automatically wipes the leaf surface with an attachment covered by cotton cloth and foil. Another device for physical surface sampling is the Benchtop Surface Roller (BSR). This machine, intended to make pasta, simulates direct worker contact with treated foliage. A cotton cloth and foil containing leaf samples is used to obtain residue. Urine biomonitoring data will be used to evaluate DFR and TSR data.

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