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THE EVALUATION OF PROTECTIVE CLOTHING AS CHEMICAL BARRIERS FOR MIXERS/LOADERS AND APPLICATORS IN AGRICULTURAL FIELD TESTS DESIGNED TO MEET FIFRA GLP TESTING STANDARDS

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ABSTRACT: A pilot test was conducted, with all data generated according to FIFRA GLP standards, to monitor and quantify the barrier efficiency of two disposable test suits for mixers/loaders and applicators in hot, humid weather. The study was performed using AAtrex Nine-O as an example of an herbicide applied to row crops. The two test suits were SMS (spunbonded/meltblown/spunbonded polypropylene fabric) with a repellant finish and Sontara FC (wood pulp/polyester/spunlaced fabric) with a fluorocarbon finish; a 100% cotton chambray suit with a fluorocarbon finish was used as a control. The study design included three workers wearing each suit type for a work cycle of three tank applications. The cycle included mixing/loading the formulation and subsequent ground boom spray application of the formulation. To determine the amount of atrazine residue, twelve outside and twelve inside alpha-cellulose patches were attached to the suits and subsequently analyzed by gas chromatography. The average barrier efficiency against atrazine penetration, formulated as AAtrex Nine-O, was 97% for the SMS suit s compared to 80% for the Sontara FC test and the small cotton chambray control suit.

KEYWORDS: nonwoven, protective clothing, mixers, loaders, applicators, atrazine

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