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SULFOMETURON METHYL DISSIPATION IN SOUTHERN FOREST WATERSHEDS. J. L. MICHAEL, USDA-FS, AUBURN, AL; D. G. NEARY, USDA-FS, GAINESVILLE, FL.

This study evaluated dissipation of the herbicide sulfometuron methyl [OUST (R)], in water in forest watersheds of the southern United States. Oust was aerially applied as a spray to a 445 ha watershed, and as the pellet formulation to a 247 ha watershed in Mississippi in April, 1985. The same treatments were applied in Florida, but to 4 ha watersheds by ground-application in June, 1985. All watersheds were treated with 0.4 kg ai/ha. Streamflow was sampled at all locations, and surface ground-water was monitored in Florida. Oust residues were detected in storm-flow but were intermittent, at very low levels, and did not persist beyond 7 days (spray) or 39 days (pellet) after treatment in Florida, and 63 days (spray) or 36 days (pellet) after treatment in Mississippi. Only 5% of 185 water samples from the Florida watersheds contained herbicide residues. Oust was not detected in surface ground-water at the Florida sprayed site, but was detected in 1 sample during 7 months of monitoring on the pellet site. At the Mississippi sites, 42% of 357 water samples collected contained Oust at quantifiable levels (above 0.001 mg/L). Off-site movement in streamflow was minimal compared to other forestry pesticides. Concentrations were >1,700 times lower than the LC50 for aquatic invertebrates and fish species.