

Activity, Adsorption, Mobility and Field Persistence of Sulfosulfuron in Soil

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Petri dish bioassays, based on root response of corn grown in soil or in perlite, were used to study the activity, adsorption, mobility and field persistence of sulfosulfuron in a silty clay loam and a sandy loam soil. Both bioassays indicated that activity of sulfosulfuron increased with increasing herbicide concentration, and to a slightly greater degree in sandy loam soil than in silty clay loam soil. More sulfosulfuron was adsorbed on the sandy loam (not biologically available) than on the silty clay loam soil. Consequently, slightly greater amounts of sulfosulfuron were leached through the silty clay loam than through the sandy loam soil. Biologically available sulfosulfuron was not detected at depths below 40 cm after application in sandy loam, but this was not the case for the silty clay loam soil. In 2002, all sulfosulfuron rates showed field persistence of less than 5 months. On the other hand, in 2003, biologically available sulfosulfuron was detected in the 0–10-cm soil depth 150 days after application.

KEY WORDS: Adsorption; leaching; persistence; sulfosulfuron, 1-(4,6-dimethoxyimidin-2-yl)-3-(2-ethanesulfonyl-imidazo[1,2- α]pyridine-3-yl)sulfonylurea.

Received Sept. 9, 2003; accepted Jan. 7, 2004; <http://www.phytoparasitica.org> posting May 6, 2004.

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