

EVALUATION OF A TRIAZINE IMMUNOASSAY KIT

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The usefulness and limitations of a commercially available immunoassay based kit for determining triazine herbicide residues in soils and waters have been assessed. Results obtained using kits were compared to conventional chemical analysis results for the same samples. The kits are potentially useful as screening tools for herbicides in water samples. Results for soil samples tested to date were less satisfactory, because of problems with quantitation and possible background effects.

MANAGEMENT STRATEGIES TO REDUCE HERBICIDES IN RICE FIELD TAIL WATERS OF THE SACRAMENTO VALLEY

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California rice is irrigated with surface waters through a network of supply and drainage canals. Excess water from 160,000 ha of rice is returned to the Sacramento River and its tributaries for downstream uses. Pollution from rice herbicides raised public concerns in the late 1970s and early 1980s when fish kills and off-tastes of potable water were attributed to molinate and thiobencarb respectively. The purpose of these studies was to develop and implement management strategies to mitigate downstream pollution by rice field herbicides. Two novel rice irrigation systems, water recirculation (WR) and static water (SW), were compared to conventional flow-through irrigation systems with respect to herbicide degradation and off-field movement. Two additional systems, gravity tailwater recapture (GTR) and water ponding (WP), were also introduced to growers to ameliorate off-site herbicide pollution. In the decade from 1982 to 1992, the evolution and adoption of these systems reduced the mass flow of molinate in the Sacramento River from 18,465 kg to 56.6 kg. Similarly, thiobencarb mass flow was reduced from 2,317 kg in 1985 to 0 kg in 1992.