

# Assessment of Methodology for Field Evaluation of Herbicide Behavior in Soils

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### Preface

Much research has been directed to the study of pesticides in soil during the past twenty years. However, much of the recent information has been obtained under defined laboratory conditions and cannot necessarily be used to predict or resolve practical field problems. The models and concepts developed from laboratory information have not been adequately tested in field situations due to lack of sufficient experimental field data.

Due to the increased awareness of the need for field-generated data to fill important gaps for both agricultural practices and basic science, there has been increased interest in conducting field research on pesticide-soil-water-plant interactions. However, field experiments are expensive. Therefore, to maximize the amount of information that can be obtained from a field experiment, it is necessary to first assess the methodology to be used, with consideration toward avoiding major deficiencies and improving existing methodologies. Some important needs for assessment of methodology for field experiments are: a) critical evaluation of the state

of the art for field studies on plant uptake and toxicity of herbicides, movement and degradation of herbicides in soil, and detoxification of herbicides; b) ability to overcome or minimize field problems, such as spatial variability of herbicides in soils; c) awareness of new techniques that have applicability to field situations; and d) knowledge of inputs needed in order for processes in the field to be modeled.

The objective of this symposium was to provide a single publication that can serve as a reference for making assessments of the methodologies to be used in field experiments.

Appreciation is gratefully expressed to the authors for the presentation of their papers at the symposium and their effort in preparing the manuscripts for publication. The information in these papers should contribute greatly in maximizing the amount of needed data that can be obtained from field experiments.

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