



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION,  
PESTICIDES AND TOXIC SUBSTANCES

DP Barcode: D267156  
Case No: 046754  
Chemical: 123000 Isoxaflutole

10 August 2000

MEMORANDUM:

SUBJECT: Isoxaflutole Prospective Groundwater Study

TO: Daniel Kenny, PM Team Reviewer  
Registration Division (7505C)

FROM: Ian Kennedy, Hydrologist  
Environmental Risk Branch II

*Ian Kennedy* 10 Aug 2000

Thru Tom Bailey, Branch Chief  
Environmental Risk Branch II  
Environmental Fate and Effects Division (7507C)

*Tom Bailey* 8-10-00

**Summary:** Isoxaflutole and its degradates have not been observed above the level of quantitation in soil pore water since March 2000. However, concentrations of bromide have not yet declined in many of the lysimeters and monitoring wells at both sites, indicating insufficient downward water movement. Because of this EFED recommends continuing the studies.

**Discussion**

Termination of a prospective groundwater study requires both declining tracer concentrations in groundwater and an absence of the chemical under study in the soil profile. Although there have been few recent observations of isoxaflutole or degradates in either groundwater or the soil profile, bromide concentrations have not declined sufficiently to allow for termination of the study.

Because the most recent quarterly report received by EFED has data only until the end of 1999, it is difficult to determine if rainfall and irrigation have been sufficient to drive the tracer to groundwater. Rainfall at both sites was plentiful at the start of the studies, but the end of 1999 was drier in both locations as well. If the dry conditions have continued, this could lead to the slower movement of chemical and tracer. (To aid in EFED's analysis of these (and other) PGW studies, it would be helpful if a water budget was included in the data package in the future.)

Termination of a PGW study requires declining concentrations for three consecutive sampling periods over at least three months. Therefore it is best if sampling continue on a monthly basis until the termination of the study. Concentrations of isoxaflutole and degradates, although low have not declined enough recently to allow for study termination

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*Iowa*

The Iowa site has yet to show any groundwater detections of isoxaflutole, its metabolites or bromide. Over the course of the study detections of isoxaflutole and degradates have declined in soil pore water. (RPA 202248 is still detected at low levels at the 3-ft level and there was one detection in May 2000 at the 9-ft level, all at levels below the limit of quantitation.) It is possible these compounds have not yet reached the water table, so monthly sampling of the wells should be continued at the Iowa site until we are ready to declare the study a failure.

*Nebraska*

Because the Nebraska site has a higher water table, things have progressed further there. Tracer concentrations have shown a significant decline. There have been recent detections of RPA 202248 at levels above the level of quantitation (0.011 ppb on 2 May 2000) which indicate the study should be continued for at least another few months. If pesticide concentrations have declined since May, then this study may be ready for termination.