February 23, 1990

NOTE

SUBJECT: ACIFLUORFEN MONITORING STUDY PROTOCOL

FROM: Elizabeth Behl, Hydrogeologist
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

TO: Christine Rice
Generic Chemical Support Branch
Special Review and Reregistration Division (H7508C)

The attached Review of a Retrospective Monitoring Study Protocol (EFGWB # 80822) submitted by the Registrants of acifluorfen may clear up some of the confusion surrounding the issue that you address in your memo under point number 3 of the retrospective study section. As you can see, the Registrants said in a December 1988 meeting that they would submit a protocol for a kind of hybrid study (retrospective but containing some prospective study components). The Registrants insist that this has been done and that they have never had any response from EPA. We (at EFGWB) have not received the protocol for review; the Registrants have proceeded with the monitoring study despite this.

Relative to your letter, the Registrants cannot submit a revised protocol if they have not been informed of revisions that they have to make. The reviews that I have done were independent of the protocol, and are based on progress reports and some site specific information. Perhaps this is the appropriate place to ask the Registrants to submit (or resubmit) a copy of the "Retrospective and Limited Prospective" protocol for review.

If you have any questions about this please give me a call at 557-0372.

Shaughnessy Number: 114402

Date Out of EFGWB: OCT 17 1989

TO: T. Luminello
Product Manager
Registration Division (H7505C)

FROM: Michael Barrett, Acting Chief MBB
Ground-Water Section
Environmental Fate & Ground-Water Branch/EFED (H7507C)

THRU: Henry Jacoby, Chief (Acting)
Environmental Fate & Ground-Water Branch/EFED (H7507C)

Attached, please find the EFGWB review of:

Reg./File #:

Chemical Name: Acifluorfen

Type Product: Herbicide

Company Name: Rhone-Poulenc Ag Company and BASF Corporation

Purpose: Review protocol for small-scale retrospective ground-water monitoring study.

Date Received: 6-9-88 ACTION CODE: 400

Date Completed: 10-16-89 EFGWB #(s): 80822

Monitoring study requested: X Total Review Time: 1.2 days

Monitoring study voluntarily: ___

Deferrals To: ___ Biological Effects Branch

___ Science Integration & Policy Staff, EFED

___ Non-Dietary Exposure Branch, HED

___ Dietary Exposure Branch, HED

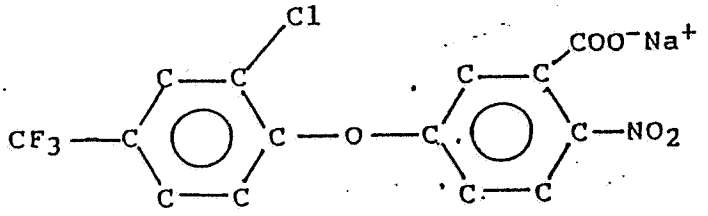
___ Toxicology Branch, HED

2

1. CHEMICAL:

Chemical name: Sodium-5-[2-chloro-4-(trifluoromethyl)-phenoxy]-2-nitrobenzoate

Common name: acifluorfen-sodium salt
Trade name: Blazer/Tackle
Structure:



2. TEST MATERIAL:

Not Applicable.

3. STUDY/ACTION TYPE:

Review protocol for small-scale retrospective ground-water monitoring study for acifluorfen-sodium.

4. STUDY IDENTIFICATION:

Title: A Small Scale Retrospective Groundwater Monitoring Study With Acifluorfen-Sodium, the Active Ingredient of TACKLE Brand Herbicide and BLAZER Brand Herbicide.

Study Monitor: Russell L. Jones, Ph.D.
Study Sponsor: Frank A. Norris, Ph.D.

Submitted by: Rhone-Poulenc Ag Company
Environmental Chemistry Department
P.O. Box 12014, 2T.W. Alexander Drive
Research Triangle Park, NC 27709

for: Rhone-Poulenc Ag Company and
BASF Corporation, Agricultural Chemicals

Identifying No.: 114402
Action Code: 400
Accession Number: none
Record Number: 224133
Date Sent to EFED: 6-9-88

5. REVIEWED BY:

Elizabeth Behl
Hydrogeologist
OPP/EFED/EFGWB/Ground-Water Section

Signature: Eliz Behl
Date: 10/16/89

6. APPROVED BY:

Michael R. Barrett
Acting Chief
OPP/EFED/EFGWB/Ground-Water Section

Signature: Michael R. Barrett
Date: 10/17/89

7. CONCLUSIONS:

The objective of this review is to assess a proposed protocol for a small-scale retrospective ground-water study of acifluorfen.

A first version of this protocol was reviewed in EAB# 80436 (3-14-88), and significant revisions were required. In a subsequent meeting (12-21-88) between representatives of EPA and Rhone-Poulenc, it was agreed that more useful information would be derived from a modified form of the retrospective study, than would be allowed by the original retrospective study design. A revised protocol will be submitted to EPA for review that reflects these changes; therefore, the retrospective study protocol submitted for review is irrelevant.

8. RECOMMENDATIONS:

Representatives of Rhone-Poulenc and BASF should submit a revised protocol for a modified retrospective study that reflects the changes discussed in the meeting (12-21-88).

9. BACKGROUND:

Tackle, manufactured by RPAC, is a selective post-emergence herbicide registered for use on soybeans and rice at application rates of 0.125 to 0.75 # ai/acre since 4-86. Blazer, manufactured by BASF, is a selective pre- and post-emergence herbicide for a wide spectrum of annual broadleaf weeds and grasses in soybeans, peanuts, and other large-seeded legumes.

Data submitted as part of the Ground-Water-Data-Call-In (GWDCI) indicate that acifluorfen is both persistent and mobile. The Environmental Fate One-liner (8-27-86) states that the free acid readily leaches in soil column experiments, but the degradation products are considered not to leach. Samples are usually analyzed for the acifluorfen-sodium (the salt), acifluorfen (free acid), the amino metabolite (LS-82-5281), and the desnitro product (LS-82-5283).

Data reviewed for the Pesticides in Ground Water Database: Interim Report (1988) indicate that wells in 2 states have been analyzed for acifluorfen as a result of normal agricultural use. Acifluorfen has not been detected in these samples. EPA determined that the registrant should conduct a small-scale prospective monitoring study based on results of the GWDCI (9-15-87). Findings of pesticide residues in ground water during the prospective study, prompted the registrant to agree to conduct small-scale retrospective monitoring studies at different locations.

10. DISCUSSION:

In a meeting between representatives of Rhone-Poulenc and EPA (12-21-88), Rhone-Poulenc suggested an alteration in the design of the small scale retrospective study. The emphasis of the new study design, that Rhone-

Poulenc calls a "small scale retrospective and limited prospective ground water monitoring study", is to determine levels of a pesticide and its degradates in soil and ground water beneath a field following treatment. The retrospective study design does not require soil cores to be taken (after initial characterization of the soil column), except if there is the need to clarify how pesticide residues entered the ground water. The changes proposed By Rhone-Poulenc would involve scheduled collection and analysis of soil cores, in order to define soil dissipation kinetics. Representatives of the ground water section agreed to allow the protocol changes to that end. A revised protocol will be submitted for review.