

US EPA ARCHIVE DOCUMENT

Out: 30 May 90

Shaugnessy Numbers: 129008

TO: Product Manager: R. Taylor/ C. Giles (PM 25)  
Registration Division (H7505C)

FROM: Catherine Eiden, Acting Head, *P. Subkoff for CEIDEN*  
Surface Water Section  
Environmental Fate and Groundwater Branch (H-7507C)

THRU: Henry Jacoby, Chief, *H. Jacoby*  
Environmental Fate and Groundwater Branch (H-7507C)

Attached, please find the EFGWB review of:

Reg./File #: 352-LGU & 352-LGL

Chemical Name: DPX-V9360

Type Product: Herbicide

Company Name: DuPont

Purpose: Request from registrant that Spray  
Drift Studies be set aside

Date Received: 4 April 90      Action Code: 123 &  
123

Date Completed: 23 May 90      EFGWB #(s): 90-0502 &  
90-0503

Monitoring Study Requested: No      Total Reviewing Time: 3days

Monitoring Study Volunteered: No

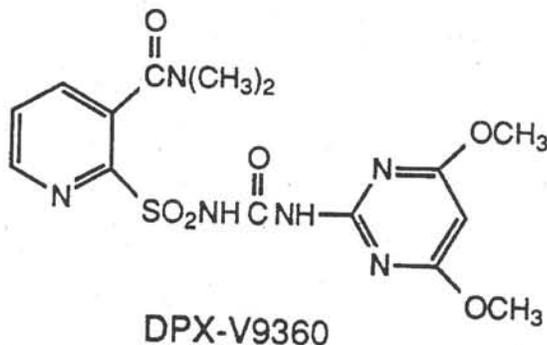
No Deferrals to any other Branch



2003743

I. Chemical Description:

Accent. DPX-V9360. Sulfonylurea herbicide.  
3-pyridinecarboxamide (((4,6-dimethoxy-pyridin-2-yl)-aminocarbonyl)aminosulfonyl)-N,N-dimethyl



II. Test Materials:

NA

III. Study Action Type:

Evaluation of a registrant's request that the spray drift studies be set aside. The spray drift studies under consideration are the Droplet Size Spectrum and Drift Field Evaluation (40 CFR Part 158.440; FIFRA Section 3 Guidelines 201-1 and 202-1).

IV. Study Citations:

30 March 1990 letter from Mr. Tony E. Catka of DuPont to Robert J. Taylor of the U.S.EPA (Attached).

V. Reviewer:

Robert K. Hitch, Ecologist,  
Monitoring Section  
Exposure Assessment Branch

*Robert K. Hitch* Date: 24 May 90

VI. Approval:

Catherine Eiden, Chief,  
Surface Water Section  
Environmental Fate and Groundwater Branch

*Paul Zulkoff for Catherine Eiden* Date: 5/24/90

VII. Conclusions:

The registrant requests that the spray drift studies be waived because he is to participate in the Spray Drift Task force. The Agency denies this request due to concern for nontarget plants. The registrant is granted a time extension with respect to providing data on spray drift of Accent.

VIII. Recommendations.

NA.

IX. Background

The registration standard asked for spray drift studies to support Accent registrations. Currently Accent has no Section 3 registrations. DuPont is seeking to register Accent for ground application on corn. The label notes that a fine droplet size is necessary for Accent to be efficacious.

X. Discussion

As a standard practice, the EFGWB requires spray drift studies to support chemicals that are TOX I or II for dermal or inhalation toxicity. Additionally, we require the spray drift studies when the Ecological Effects Branch is concerned for environmental biota. Accent is toxicology category IV for dermal irritation and toxicology category III for inhalation (04/03/90 Toxicology Branch "one-liner"). However, the Ecological Effects Branch has significant concerns for the phytotoxicity of the sulfonyleurea herbicides and their potential to harm nontarget plants (Personal communication with Mr. Charles Lewis, Ecological Effects Branch). In view of their concerns, the EFGWB requires spray drift studies to support the corn registration.

In the past, the EFGWB has asked that the registrant prepare a protocol for comment prior to entering the field. Almost invariably the registrant has had difficulty understanding what the Agency needs. Therefore, information is provided below which -- with the Subdivision R and the Standard Evaluation Procedure Documents, should expedite the registrant's writing of a study protocol.

Regarding the Preparation of Spray Drift Protocols

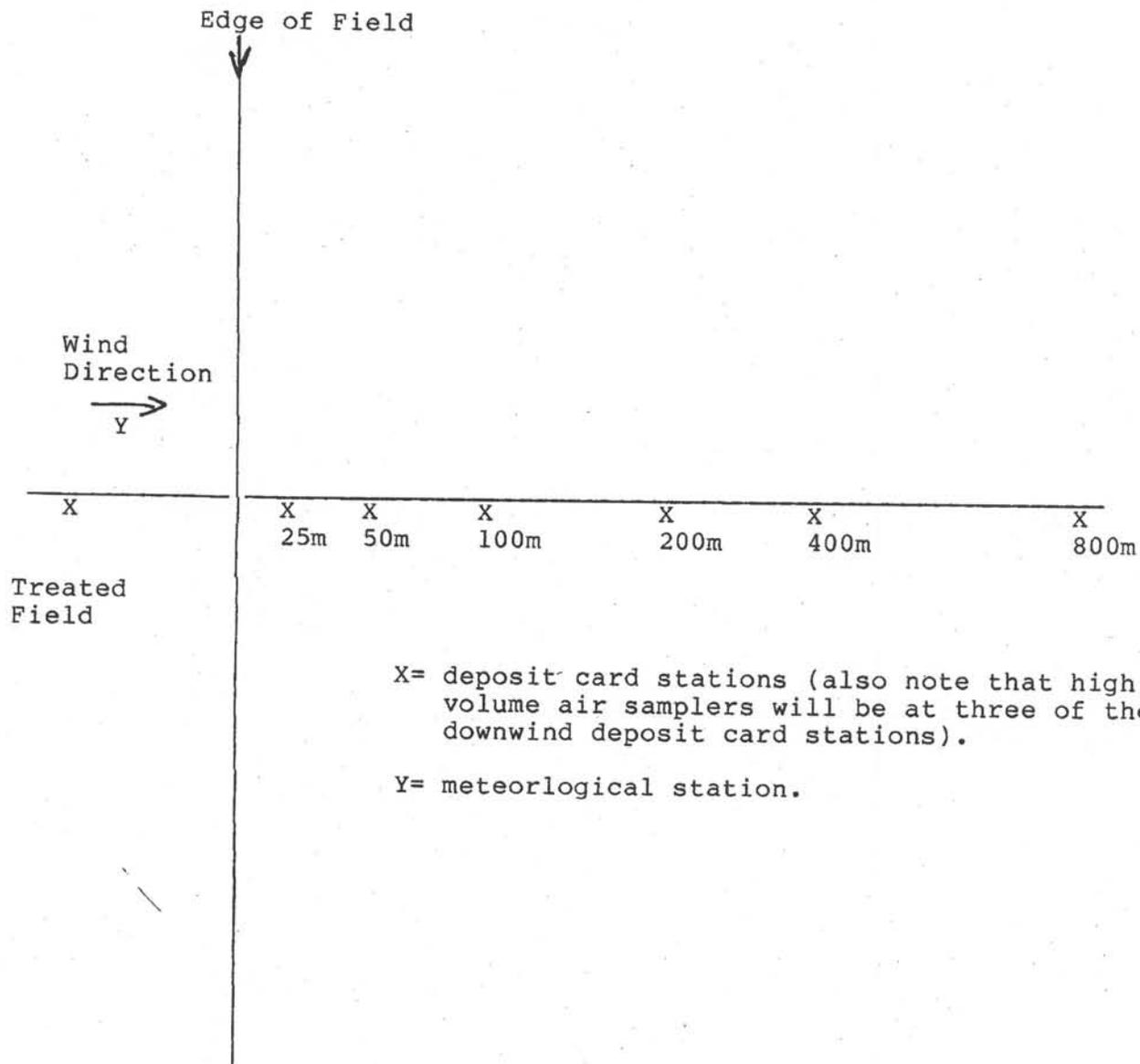
In planning the protocols, the registrant should bear in mind that, during its review, the Agency will seek to determine whether the registrant has investigated the "worst case" for spray drift.

The droplet size spectrum study can be conducted either in the field during the Drift Field Evaluation, or, it can be conducted in a wind tunnel. With the size spectrum study, the registrant is asked to submit studies evaluating the viscosity, density, and surface tension of the spray mixtures most likely to drift. Additives and mixtures recommended on the label shall also be considered in this evaluation. The droplet size spectrum studies will be conducted with the spray mixtures having the lowest densities, viscosities, and surface tensions.

The field studies are to be conducted with the spray mixture or mixtures likely to have the highest potential for drift as indicated by physical measurements of the mixtures and by the droplet size spectra studies. Generally, the Drift Field Evaluation is to be conducted in at least two geographic areas where the crop of interest is grown. Further, one drift field evaluation in one of these two areas is to be conducted during an inversion.

Typically, the field layout for the Drift Field Evaluation can be planned something like figure 1. The locations marked with an X show where deposit cards would be placed. At three downwind locations, there must be high volume air samplers (for example 50, 400, and 800 meters).

Figure 1



During the Drift Field Evaluation the Barad stability ratio must be calculated and submitted. The Barad stability ratio (SR) has the following form:

$$SR = \frac{T_2 \text{ meters} - T_1 \text{ meters}}{\bar{U}^2} \times 10^5$$

T<sub>2</sub> is the temperature (C°) at ten meters.

T<sub>1</sub> is the temperature at two meters.

U is the average of wind velocity measurements made at the same two heights.

Also, during the applications and, for sufficient time afterwards for the spray cloud to leave the study area, temperature and wind direction shall be measured every 2-3 minutes at two and ten meters. Wind direction shall be measured in three dimensions so as to determine whether the air is rising or falling.

Generally, the most important results of the spray drift studies are the measurements of grams of pesticide deposited per hectare and the milligrams of pesticide per cubic meter of air. A table or tables shall be presented which clearly show these results and which clearly identifies the stations at which these results were measured. The methodology for deriving these results must be clearly explained and supported by example calculations and example chromatograms from the Accent studies. All correction factors (adjustments for recovery and etc.) must be shown within the examples submitted.

Experimental conditions during the Drift Field Evaluation should be as close to "real world" as possible. Clearly applicators will be aware that the study is being monitored, but it is important that they understand that they are to apply by their routine procedures and it is expected that they treat as many acres per day as they normally would.

Photos of the site should be provided. Additionally, diagrams or detailed photos of any specialized application equipment or monitoring equipment will be required.

XI. Completion of One Liner

NA

XII. Confidential Appendix

NA