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SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 08 1990

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Aquatic Residue Monitoring of Iprodione on Rice.

FROM: James Akerman, Chief
Ecological Effects Branch
Environmental Fate and Effects Division (H7507c)

TO: Susan Lewis, PM 21
Fungicide/Herbicide Branch
Registration Division (H7505c)

The Ecological Effects Branch (EEB) received a revised aquatic residue monitoring protocol for Iprodione on rice. This protocol has incorporated many of the recommendations that EEB outlined in a previous protocol and includes the following issues and changes:

1) The purpose of the study is to determine the extent of dissipation of the parent compound, formation of degradates and the mobility of residues under actual use conditions.

2) The objectives of the study will be to measure Iprodione drift residues over rice field drainage systems and to determine instream residues of Iprodione and two of its degradation products in water and sediment after aerial application and runoff events. The study should also help verify the calculated EEC value of 220 ppb.

3) Study sites will include two in Texas, one in Arkansas and two in Louisiana and will cover most of the typical rice culture scenarios (field draining directly into a small stream; engineered canals; pump-off fields; small drainage ditches which combine with waterways).

4) Meteorological data will be collected as follows: 1) air temperature, wind speed, wind direction and cloud cover will be recorded at the field for each application day. 2) daily rainfall and temperature data will also be collected.

5) EEB recommended that the spray drift be measured in all direction from the treated area and the receiving water with eight drift card zones, 100 ft. from treated site. The new protocol has outlined the drift monitoring as follows:

A. LIVE OAK PLANTATION, LOUISIANA

Three drift cards will be placed downstream of the study site. One will be immediately below the field; the second will be approximately 100 ft downstream of the field; the third drift card will be approximately 300 ft downstream of the field. Three drift cards will be placed upstream of the field. The upstream drift cards will be placed immediately upstream from the field; approximately 100 ft upstream from the field; and approximately 300 ft upstream of the field. Three drift cards will be placed between the first upstream and the first downstream drift cards. Eight drift cards will be placed around the circumference of the field about 100 feet from the field edge. In addition, three unexposed filter papers will be fortified on-site with a known quantity of iprodione to serve as QC field samples.

B. BAYOU BARTHOLOMEW, ARKANSAS

Three drift cards will be placed downstream of the study site. One will be immediately below the field; the second will be approximately 100 ft downstream of the field; the third drift card will be approximately 300 ft downstream of the field. Since there is no well defined upstream drainage system at this site there will be no upstream drift sampling. Twelve drift cards will be place around the circumference of the field about 100 feet from the field edge. In addition, three unexposed filter papers will be fortified on-site with a known quantity of Iprodione to serve as QC field samples.

C. CANAL 43, ARKANSAS

Three drift cards will be placed downstream of the study site. One will be immediately below the field; the second will be approximately 100 ft downstream of the field; the third drift card will be approximately 300 ft downstream of the field. Three drift cards will be placed upstream of the field. The upstream drift cards will be placed immediately upstream from the field; approximately 100 ft upstream from the field; and approximately 300 ft upstream of the field. Three drift cards will be placed between the first upstream and the first downstream drift cards. Eight drift cards will be place around the circumference of the field about 100 feet from the field edge. In addition, three unexposed filter papers will be fortified on-site with a known quantity of Iprodione to serve as QC field samples.

D. EAST BERNARD, TEXAS

Three drift cards will be placed downstream of the study site on the West Bernard Creek. One will be immediately below the field; the second will be approximately 100 ft downstream of the field; the third drift card will be approximately 300 ft downstream of the field. Three drift cards will be placed upstream of the field on the West Bernard Creek. The upstream drift cards will be placed immediately upstream from the field; approximately 100 ft upstream from the field; and approximately 300 ft upstream of the field. Three drift cards will be placed between the first upstream and the first downstream drift cards on West Bernard Creek. The nine drift cards in West Bernard Creek will be protected from most spray drift due to the heavy canopy covering the creek bed. Eight drift cards will be place around the circumference of the field about 100 feet from the field edge. In addition, three unexposed filter papers will be fortified on-site with a known quantity of Iprodione to serve as QC field samples.

E. MATAGORDA, TEXAS

Three drift cards will be placed downstream of the study site beginning where the discharge ditch crosses U.S. Route 60. The first will be on the east side of U.S. Route 60; the second will be approximately 100 ft downstream from the first; the third drift card will be approximately 300 ft downstream from the first. Since there is no well defined upstream drainage system at this site there will be no upstream drift sampling. Twelve drift cards will be place around the circumference of the field about 100 feet from the field edge. In addition, three unexposed filter papers will be fortified on-site with a known quantity of Iprodione to serve as QC field samples.

6) Sampling frequency at each site will occur on the day before an application and on days 0, 1, 4 after each application.

7) The level of detection for residues in water and sediment were not defined in this revised protocol. However, Dr. James Hobson project leader at Rhone-Poulene, assured EEB that water residue levels should be detected to at least 0.3 ppb. Sediment residue levels are still an unknown but should be close to the NOEL of 7 ppb.

8) Sediment samples will include a core sample from 0-10 cm. Residue analysis will be conducted in 2.5 cm intervals until the chemical can no longer be detected.

9) EEB recommended that salinity levels at estuarine sites be at least 5°/oo to 25°/oo. However, the registrant has only been able to find areas with 1°/oo salinity because of local flooding in these areas. After confirming this point with Jim Clark at EPA's Gulf Breeze Laboratory, EEB will accept the use of these sites.

Apart from minor alterations in drift card placement at a couple sites, 1°/oo salinity at the estuarine sites and clarification of detection levels for water and sediment this protocol has included all of the EEB recommendations. These apparent discrepancies should not compromise the objectives of the study. This protocol appears to be acceptable for the defined objectives. If there are any questions regarding this protocol, please notify Miachel Rexrode (557-0578).