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

June 4, 1992

MEMORANDUM

TO: Lois Rossi
Chief, Reregistration Branch (H7508W)

FROM: Henry Jacoby
Chief, Environmental Fate and Ground Water Branch (H7507C)

RE: Requirement for Retrospective Ground-Water Monitoring Studies for Metalaxyl

PURPOSE:

Retrospective ground-water monitoring studies have been required for the registration of the chemical metalaxyl. A study protocol and three site selection reports have been received by EFGWB. At this time, we are uncertain about how to proceed with this compound, and need a decision from you regarding which regulatory options we should follow. The options, from our perspective, are outlined in this memo. We would like to meet with you to discuss these options and obtain your input sometime in mid-July.

BACKGROUND:

The December 1981 Registration Standard for metalaxyl required the completion of ground-water monitoring studies for registration of the compound. In 1985, Ciba-Geigy voluntarily submitted information regarding detections of metalaxyl in ground water (EAB # 6330). Ciba-Geigy reported detections of metalaxyl in Florida ground water at 3.1 and 4.7 ppb; and in the surface water of the Sacramento River, California. Because of a lack of detailed information about the well construction and aquifer depths, the submitted information was judged inconclusive. In 1987, EPA recommended that retrospective studies be conducted for metalaxyl (memo: Simko to Rossi, 8/19/87) because of its long history of use and the potential for metalaxyl and its major degradate to reach ground water based on its environmental fate characteristics.

Laboratory studies indicate that metalaxyl is persistent and mobile in the environment. Results of laboratory and field leaching studies indicate that both the parent and the primary degradate (CGA-62826) may leach in most soils (Metalaxyl Registration Standard, 1987). Tests indicate that metalaxyl is not oncogenic, mutagenic, or teratogenic, and that

acute toxicity is low (memo: Barbehenn to Rossi, 7/17/87). The MCL and HAL for metalaxyl have not been established.

The following information describes the existing monitoring data for metalaxyl that are presently available to the EPA:

GROUND-WATER SAMPLING:

1) A ground-water monitoring study was conducted in **Suwanee County, Florida** in **1980**. No residues of metalaxyl or its degradate CGA-62826 were found in any of the ground-water samples from Day 26 to Day 227. Metalaxyl residues were detected in soil samples on Days 26 and 85 at concentrations ranging from 59 to 670 ppb. Residues were detected to a depth of two feet.

2) A ground-water monitoring study was conducted from **1980 - 1982** for metalaxyl on the Tobacco Experimental Farm in **Maryland**. Soil sample residues ranged from 2.5 to 6080 ppb from Day 0 (the day of application) to 135 days after application. Up to 3710 ppb were detected in the 0" - 18" soil sample 121 days after application. Ground-water samples contained metalaxyl residues ranging from **0.002 to 0.236 ppb** were detected from the day of application to 30 days after application. No detections were noted in ground-water samples after the 30-day sampling round.

3) Four wells in **Florida** were monitored for metalaxyl from **1983 - 1985**. Two ground-water samples yielded positive results; concentrations were **3.1 and 4.7 ppb**. However, water tables in these wells were deep (>100 feet).

4) A monitoring study for metalaxyl was done in **Oregon** from **1983 - 1985**. Inadequate information was submitted and no conclusions were drawn.

5) Twelve drinking water wells were monitored in **North Carolina, Florida, and Tennessee** from **1986 - 1988**. Four of the North Carolina wells contained metalaxyl residues; one well in Tennessee also contained residues. No residues were detected in the Florida wells. Metalaxyl was found in ground water because of normal use of the compound at concentrations ranging from **0.27 to 3.0 ppb**. The highest concentrations were found in wells located up to 500 feet from the treated area. There are several problems with the study including: age of the wells (many were very old); screened intervals were unknown; only four wells were sampled in each use area; distances from use area to sampled well were variable and ranged from 10 to 600 feet; information about ground-water flow direction was inadequate; and CGA-62826 was not monitored.

6) Metalaxyl and CGA-62826 were detected in ground water in western **Washington** in **1992**. The 6(a)2 information did not report residue levels or exact well locations.

7) Metalaxyl detections in ground water were reported in **North Carolina** as 6(a)2 information in **1992**. The detections ranged from **66 - 815 ppb** at one location in the

eastern part of the state, and have been attributed to point source (mixing/loading) problems. No information is available about the exact location of the well or the conditions pertaining to this detection.

SURFACE WATER SAMPLING:

1) Surface water samples were taken from the **Sacramento River** in **California** from **1983 - 1985.** During the second and third years of sampling, metalaxyl residue concentrations ranged from **0.25 to 3.5 ppb.** A drinking water well which drew water from the river was also tested; no residues were detected.

REGULATORY OPTIONS:

Metalaxyl has been detected in ground water in several states as a result of field monitoring studies. Concentrations in ground water range up to 4.7 ppb from normal field use of the compound, and up to 3 ppb have been detected in wells located approximately 500 feet from treated fields.

At this point, from our perspective, the Agency has several regulatory options with respect to metalaxyl:

1) A ground-water label advisory for all metalaxyl formulations can be established.

2) An MCL or lifetime Health Advisory for metalaxyl should be developed. Metalaxyl is not considered to be toxic at relatively high levels; however, these levels should be quantified, considering the concentrations that have been detected in drinking water in North Carolina.

3) Restrictions on use sites or usage rates for metalaxyl can be imposed.

4) Metalaxyl can be classified as a restricted use chemical.

5) Metalaxyl could be managed via State Management Plans.

Sufficient information is currently available to EFGWB to recommend Options 1, 2, and 4. EFGWB has required three small-scale retrospective studies on metalaxyl use for which inadequate monitoring data exist. This information is needed prior to the recommendation of Option 3. It would also be useful for representatives of EFGWB to meet with you to discuss further regulatory options and conditions under which the retrospective ground-water monitoring studies may no longer be necessary. Please let me know at your earliest convenience about the date when a meeting can be arranged.

cc: Daniel Barolo
Anne Barton
Estella Waldman