To: Susan Lewis  
Product Manager PM 21  
Registration Division (H7505C)

From: Elizabeth Bech, Head (acting)  
Ground Water Technology Section  
Environmental Fate & Ground Water Branch/EFED (H7507C)

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

Attached, please find the EFGWB review of...

Reg./File #

Chemical Name: Metalaxyl

Type Product: Fungicide

Product Name: Ridomil, Subdue, Apron, Pace

Company Name: CIBA-GEIGY Corporation

Purpose: Review of the detections of metalaxyl and simazine in ground water in Washington

Action Code: 405 Adverse 6(a)(2)  
EFGWB #(#): 920393  
Total Review Time: 0.5 days

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1. CHEMICAL:

Chemical name: N-(2,6-dimethylphenyl)-N-methoxyacetetyl)-
aniline methyl ester
Common name: Metalaxyl
Trade name: Ridomil; Subdue; Apron; Pace
Structure:

CH₃  \( \text{CH}_\text{3} \)  \( \text{CH} \-\text{COOCH}_\text{3} \)
\( \text{CH} \-\text{CO}_\text{CH}_2\text{OCH}_\text{3} \)
\( \text{CH}_\text{3} \)

2. TEST MATERIAL:

Metalaxyl and its degradation product metalaxyl acid

3. STUDY/ACTION TYPE

Review of the detections of metalaxyl and its degradation
product metalaxyl acid and simazine in ground water in
Washington (MRID 42113900 and 42113901).

4. STUDY IDENTIFICATION:

Title: "Fate of Carbofuran, metalaxyl, and Simazine in
Western Washington Agroecosystems" - it was
presented at the Society of Environmental
Toxicology and Chemistry annual meeting in

Submitted by: Karen S. Stumpf
CIBA-GEIGY Corporation
P.O. Box 18300
Greensboro, NC 27419

5. REVIEWED BY:

Larry Liu, Ph.D. Signature: Larry Liu
Environmental Scientist Date: 1-23-92
OPP/EFED/EFGWB/Ground-Water Section

6. APPROVED BY:

Elizabeth Behl Signature: Elizabeth Behl
Acting Section Chief Date: 1/27/92
OPP/EFED/EFGWB/Ground-Water Section
7. CONCLUSIONS:

Metalaxyl and its degradation product metalaxyl acid as well as simazine were detected in ground water in Washington. However, no residue levels were reported.

8. RECOMMENDATIONS:

The registrant should submit any available information about the wells with detections to the Agency.

9. BACKGROUND:

Metalaxyl is a systemic fungicide registered since 1980 for use on over 100 agricultural crops, ornamentals and turf. Some principle uses are tobacco, ornamentals, turf, fruit, citrus, non-bearing nursery stock, seed treatment, vegetables and peanuts.

Simazine is used for the control of most annual grasses and broadleaf weeds in corn, alfalfa, Bermudagrass, cherries, peaches, citrus, cranberries, grapes, apples, pears, certain nuts, asparagus, certain ornamental and tree nursery stock, and in turf grass sod production.

The MCL for simazine is 1 ppb and 4 ppb for carbofuran (EPA, Office of Water; 11/91).

10. DISCUSSION:

The purpose of this review is to comment on the detections of metalaxyl and its degradation product metalaxyl acid as well as simazine in the ground water in western Washington. Due to the lack of detailed information (such as residue levels, well location, site description, pesticide use history), discussion by the Agency is limited. The following were cited directly from the Abstract:

"The persistence and vertical transport of carbofuran, metalaxyl, and simazine was monitored following application to raspberry and strawberry plantings on alluvial soils with shallow water tables in western Washington. Carbofuran was the most mobile but least persistent pesticide. It moved readily through the first meter of soil, but its short persistence prevented accumulation in ground water. Metalaxyl remained largely in the top 30 cm of soil, but degraded much more slowly than carbofuran. Little metalaxyl acid was detected with increasing frequency and at increasing concentrations over the course of the study. Simazine remained primarily in the top 30 cm of the soil profile, but low levels were frequently found in ground water. Simazine
may be moving to ground water via transport on soluble organic matter.

According to the Metalaxyl Registration Standard issued in 1987, both the parent and the primary degradation product (CGA-62826) can leach in sand, silt loam, and sandy clay loam soils. Metalaxyl has been detected in ground water in Florida and North Carolina (Pesticides in Ground Water Data Base - 1988 Interim Report). Preliminary information from the Pesticide Monitoring Program Section (EFGWB) reports detections of simazine in ground water in 14 states and detections of carbofuran in ground water in 11 states.

Data previously submitted to EPA are inadequate to determine leaching potential fully, and as a result of their mobile characteristics and detections in ground water a small-scale retrospective ground-water monitoring study was required. The registrant agreed with the Agency to analyze ground-water samples for parent metalaxyl and its acid metabolite, CGA-62826 (letter dated 2/6/90 from Karen Stumpf of CIBA-GEIGY to Lois Rossi of SRRD/OPP/EPA). It was not clearly stated whether the degradation product (metalaxyl acid) reported in the Abstract was CGA-62826. Clarification is required.