C. Furlow

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

JAN 8 1991

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: ID #90-0R-05. Chlorothalonil [BRAVO®]: Section 18 exemption for hazelnuts grown in the State of Oregon. New proposed use pattern. [DEB:#7487;MRID: n/a].

FROM: William L.Anthony, Chemist
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THRU: F. B. Suhre, Section Head
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TO: S. Stanton, PM #41
Emergency Response Branch & Minor Use Section
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and
Toxicology Branch
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The Oregon Department of Agriculture has requested an emergency exemption under Section 18 of FIFRA as amended, for use of the fungicide, chlorothalonil [BRAVO®-720], EPA Reg.#50534-188, to control Eastern Filbert Blight [Anisogramma anomala] on hazelnuts [Corylus avellana]

BRAVO®-720 contains 54% chlorothalonil [6 lb ai/gal] and is a product of the Fermenta ASC Corp., Mentor, OH.

Oregon has 28,460 acres of hazelnuts. It is anticipated that a maximum of 11,000 acres will be treated which would require a maximum amount of 16,500 gallons of BRAVO®720 (99,000 lbs ai)/ per season. The requested exemption is from leaf bud break (3/1/91) through early shoot elongation (5/3/91]; no application will be made after 5/30/91.

Except for the requested changed use pattern, the current Sec.18 request is similar to the Section 18 request, by the State of

Oregon, for use of chlorothalonil in/on hazelnuts, reviewed by DEB, 2/26/90. [See Memo: ID #90-0R-05, W.Anthony].

Tolerances

Tolerances are established for residues of chlorothalonil [2,4,5,6-tetrachloroisophthalonitrile] [DS-2787], and its 4-OH-metabolite [4-0H-2,5,6-trichloroisophthalonitrile] [SDS-3701] in/on several raw agricultural commodities ranging from 0.05 ppm to 15 ppm, [40 CFR 180.275]. There are no permanent or temporary tolerances for residues of chlorothalonil in/on hazelnuts [filberts]. A temporary tolerance for residues of chlorothalonil and its metabolite in/on almonds and almond hulls at 1.0 ppm, respectively, expired 12/31/84; a temporary tolerance for residues of the parent and its metabolite in/on pecans at 0.02 ppm expired 12/3/86.

Note: DEB has recently recommended for the establishment of a requested tolerance for residues of chlorothalonil and its metabolite [SDS-3701] at 0.02 ppm in/on pecans. This was based on a recent reevaluation of 1988 chlorothalonil FRSTR metabolism requirements. This recommendation was further based on the residue data obtained for HCB and PCBN, in which they would be present only in infinitesimal amounts and would not be of regulatory concern for the proposed use of pecans. [Memo:PP#7F3471,J.Stokes,5/30/90].

Proposed Use

The new proposed use pattern would permit a maximum of three applications of BRAVO®720/acre (one at leaf bud break and continue at 2 to 4 week intervals) at the rate of 4.0 pts BRAVO®-720 (3.0 lbs ia /acre. For ground application, sufficient water should be used to thoroughly wet the tree canopies, requiring as much as 400 gallons of water per acre. If ground application is not feasible, BRAVO®720 may be applied by air at the same rate of 4.0 pts/acre in at least 20 gallons of water per acre. Therefore, the maximum number of lbs used to treat the hazelnut trees would be 9.0 lbs ai /acre/season.

The requested new use pattern shown above compares favorably with the use pattern for chlorothalonil permitted in the previous Sec.18 on hazelnuts, which permitted a maximum of 8.25 lbs ai/acre/season. [Memo: #90-0R-05, W. Anthony, 2/26/90].

Restrictions: Nut shell waste may not be fed to livestock. Do not apply a total of more than three applications per year, with a maximum application of 9.0 lbs ai /acre/season. There will be a 120 day PHI.

Metabolism

In connection with a permanent tolerance petition for use of chlorothalonil on pecans, we previously concluded that the nature of the residue is adequately understood, [PP #7F3471, J. Stokes, 8/13/87 & 5/30/90]. For purposes of this Section 18 only, chlorothalonil and its 4-OH metabolite are the residues of concern.

Analysis
Method I in Pesticide Analytical Manual, Vol.II may be used for enforcement purposes.

Residue Data
No residue data for chlorothalonil and its metabolite are available in/on hazelnuts (filberts). However, residue data are available for chlorothalonil in/on pecans. Since hazelnuts and pecans are both members of the same crop group, pecan residue data will be utilized to estimate chlorothalonil residues in/on hazelnuts resulting from the proposed Section 18.

Pecan Residue: Residue data were submitted from a total of nine field experiments located in seven growing areas, viz., AR, AL, FL, GA, MS, TX, & SC. The crops were treated with ground equipment at a rate ranging from 1.3 to 3.1 lb ai/acre at intervals of 14 days or less. The number of applications ranged from 4 to 10 with PHI from 36 to 146 days.

Results: No detectable residues (<0.01 ppm) of chlorothalonil and its 4-OH-metabolite were found in the nutmeat of any pecan crop treated with the fungicide at the maximum rate of 3.1 lb ai/acre and a minimum PHI of 36 days. No detectable residues of hexachlorobenzene [HCB] (<0.003 ppm) or pentachlorobenzonitrile [PCBN] (<0.005 ppm) were found following the maximum rate with a 36 day PHI minimum. [Memo: PP #7F3471, J. Stokes, 8/13/87 & 5/30/90].

In summary, the above residue data reflects a total treatment of 3.1 lb ai/A x 10 = 31.0 lbs or more than [3X] the maximum amount of chlorothalonil permitted for the growing season under this Section 18 request, which would permit a maximum of 9.0 lb ai/acre/season.

Based on this data, we would not expect the combined residues of chlorothalonil and its metabolite to exceed 0.05 ppm in/on the nutmeat of hazelnuts as a result of the proposed use.

Note to PM: An IR-4 project was recently initiated to obtain chlorothalonil residue data on hazelnuts. The residue trial was conducted and samples were harvested during the 1990 season. The nut samples remain to be analyzed for possible chlorothalonil residues.

Meat,Milk,Poultry, and Eggs
Hazelnuts (filberts) are not a feed item, therefore no secondary residues should result in these commodities.

Conclusion
(1) No tolerance has been established for residues of chlorothalonil and its 4-OH-metabolite in/on hazelnuts (filberts).

(2) For purposes of this Section 18, the metabolism of chlorothalonil in hazelnuts is adequately understood. The residues of concern are chlorothalonil and its 4-OH-metabolite.

(3a) The combined residues of chlorothalonil and its metabolite are not likely to exceed 0.05 ppm in/on the nutmeats as a result of this proposed Section 18.

(3b) Residue levels are expected to be non-detectable for the impurities, [HCB] hexachlorobenzene (<0.003 ppm) and for [PCBN] Pentachlorobenzonitrile (<0.005 ppm) as the result of the proposed use on hazelnuts (filberts).

(4) Hazelnut shells and waste are not feed items, therefore no secondary residues are anticipated in meat, milk, poultry, and eggs.

(5) Method I in the Pesticide Analytical Manual, Vol.II is adequate for enforcement. Analytical Reference Standards for chlorothalonil and its 4-OH-metabolite are available from the Pesticide & Industrial Chemicals Repository at Industrial Park, NC.

Recommendation
TOX considerations permitting, DEB has no objection to this Section 18 request. An agreement should be made with FDA regarding the legal status of the treated commodity in commerce.

CC: Reviewer;RF;SF(Chlorothalonil[BRAVO®]);Sec.18 file;~~PMSD/ISB~~ PIB/FOD (C. Furlow; circulation;DRES(J. Kariya).
RDI: FBS,1/8/91;EZ,1/8/91.
H7509C: W. Anthony,wla;CM-2,Rm.812:X557-4351.