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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EPA Reg. No. 352-354. Benlate® (benomyl) Label
Amendments dated 5/6/86 and 5/9/86 to add uses on
Brussels Sprouts and Turnip Greens. No Accession
Nos. RCB #s1134 and 1135.

FROM: Kenneth W. Dockter, Chemist *Kenneth W. Dockter*
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: A.R. Rathman, Section Head *ARR*
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Henry J. Jacoby/Rebecca S. Cool, PM#21
Registration Division (TS-767)

E. I. du Pont de Nemours & Co., Inc. is submitting
supplemental labeling for DU PONT BENLATE® Fungicide, EPA Reg.
No. 352-354 to add new uses on Brussels sprouts and on turnip
greens based on IR-4 petitions 3E2924 and 9E2259, respectively.

Descriptions of the Benlate® [benomyl, (methyl 1-(butyl-
carbamoyl)-2-benzimidazolecarbamate)] formulation(s) to be used
were not provided in the current packages. Subsequently, the PM
confirmed that Benlate® 50% WP containing 53% technical (95% pure)
benomyl, as specified in the referenced petitions is the formulation
intended in the current request(s). Also, all inerts in the
referenced formulation are cleared under 180.1001.

The Registration Standard (updated Product and Residue
Chemistry chapters, dated October 9, 1985) includes discussions
of the aforementioned petitions.

Currently, the tolerances for residues of benomyl and its
metabolites containing the benzimidazole moiety (calculated as
benomyl) in or on Brussels sprouts, turnips (roots), and turnip
greens are established respectively at 15.0, 0.2, and 6.0 ppm
(40 CFR §180.400).

The use on Brussels sprouts detailed in PP#3E2924 involves foliar application at the rate of 1.0 lb ai/A, up to 7 days before harvest, with repeat applications at 7 day intervals (using a maximum of 3 applications) to control white mold, gray mold, and ring spot. (See F. Boyd memorandum of September 26, 1983). Based on available residue data and a subsequent amendment (that increased the proposed tolerance from 10 to 15 ppm), RCB recommended favorably for this now registered use. (See F. Boyd memorandum of March 28, 1984).

With the proposed supplemental labeling (dated, "050686"), Benlate will be applied in a foliar spray to Brussels sprouts at the rate of 1 lb ai/A using sufficient water to obtain thorough coverage (3 to 10 gals./A, aerially) to control white mold, gray mold, anthracnose, and ring spot. Application is to begin when disease first appears and repeated a maximum of two times per crop at 7-day intervals. A PHI of 7 days is imposed.

The corresponding (registered) use on turnips (roots) and turnip greens permits foliar spray of benomyl at the rate of 0.25 lb ai/A every 14 days after emergence for 3 applications (per growing season) to control Cercospora and Cercospora leaf spots, anthracnose, powdery mildew, and Alternaria. A PHI of 14 days is imposed. Use is restricted to AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, and VA. (D. Stubbs undated memo, Final Rule - PP#9E2259).

With the proposed supplemental labeling (dated, "050986"), Benlate will be applied in a foliar spray to turnip greens at the rate of 0.25 lb ai/A using sufficient water to obtain thorough coverage (3 to 10 gals./A, aerially) to control Cercospora and Cercospora leaf spots, anthracnose and powdery mildew. Application is to begin when disease first appears and repeated a maximum of two times per growing season at 14-day intervals. A PHI of 14 days is imposed. No geographic limitation is imposed.

No analytical methodology was submitted with this petition. However, an adequate LC method is available to enforce the established tolerances in or on Brussels sprouts and turnips (roots and greens). The method was discussed in our reviews of PP#s 3F2924 and 9E2259.

No new metabolism data were submitted with this current petition. The available plant metabolism data show that the nature of the residue in Brussels sprouts and turnips (roots and greens) has been adequately defined. The residues of concern are benomyl, methyl 2-benzimidazole carbamate, and 2-amino-benzimidazole. (See F. Boyd and J. Onley memoranda dated September 26, 1983 and January 31, 1983, respectively, on PP#s 3F2924 and 9E2259).

No new residue data were submitted with this current submission. Available residue data support the established tolerances of 15 ppm and 6 ppm, respectively, on Brussels sprouts and turnip greens. Though benomyl use on the latter (rac) is limited to the southeastern states detailed above.

Since Brussels sprouts and turnip greens are not significant feed items, there will be no problem with secondary residues in meat, milk, poultry and eggs.

Conclusion and Recommendation

We conclude that the proposed Benlate® use on Brussels sprouts is essentially the same as the established, corresponding benomyl use. Consequently, the existing tolerance of 15 ppm benomyl in or on Brussels sprouts is adequate to cover residues resulting from the proposed use. Therefore, we recommend favorably for this specific label amendment.

But, the proposed Benlate® use on turnip greens must be revised to limit application to the southeastern states detailed above before we can conclude that it is essentially the same as the established, "regional" benomyl use on turnip greens. Then the existing tolerance of 6 ppm benomyl in or on turnip greens will be adequate to cover residues resulting from such a revised, proposed use. Accordingly, we can then recommend favorably for such a specifically revised label.

cc: Amended Use file (benomyl), Circu, R.F., S.F., Dockter, PMSD/ISB, PP#s 3F2924 and 9E2259 (correspondence files).

RDI: ARRathman:7/17/86:RDSchmitt:7/18/86

TS-769:RCB:CM#2:RM 804:77886:K.W. Dockter:edited by:Kd:7/21/86