

May 6, 1971

PP #1F1024. Daconil on various crops. Amendments of March 8
and April 27, 1971.

Petitions Control Branch
and Toxicology Branch

In our original evaluation of this petition (see memo of W.S. Cox, 1/6/71), we listed a number of deficiencies, mostly dealing with the inadequacies of the data with respect to the transfer of residues on feed items to meat and milk and the nature of the residues. In addition, we noted that the proposed tolerances for lima beans, carrots, celery and peanuts were either not appropriate or not supported by the data.

The petitioner, by the amendment of 3/8/71, has deleted from Section B the proposed uses of Daconil on beans, sugar beets and corn (except for sweet corn grown for the fresh market only). He has also amended the label to provide for restrictions against the feed uses of sweet corn forage and peanut vine hay. Section F was amended to delete the proposed tolerances for beans, lima beans, sugar beets (roots and tops), peanut vine hay and sweet corn forage. The amendment of 3/8/71 alleviates our concern over the transfer of residues to meat and milk.

In the amendment of April 27, 1971, the petitioner proposes the following changes in tolerances proposed for carrots and peanuts:

carrots	1 ppm in lieu of 5 ppm originally proposed
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peanuts	0.3 ppm in lieu of 0.1 ppm (negligible residue) originally proposed
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In this same amendment, he explains that the originally proposed tolerance of 15 ppm for residues of Daconil on celery is adequate since the commercial practices in Florida (where celery is trimmed to 14") insure that, even at the maximum number of treatments (24) per season, residues on unwashed celery at the proposed 7-day PHI will not exceed 14 ppm when Daconil is used at the proposed rates. (The data are based on a 16" trim, which gives us further assurance that residues on treated, field-trimmed celery will not exceed the proposed tolerance of 15 ppm.) Overall, we now conclude that the newly proposed tolerances ✓

for carrots and peanuts and the originally proposed tolerance of 15 ppm for celery are adequate.

The petitioner has also submitted (in the amendment of 3/8/71) a rationale to support the conclusion that Daconil and its hydroxy-metabolite are the only components of concern in terminal residues of Daconil. This rationale includes the following arguments:

- a. ^{14}C -tracer studies conducted by Boyce-Thompson Institute show no translocation of residues when Daconil was applied either foliarly or to the roots of plants.
- b. The nitrile (CN) groups are sterically hindered by the four Cl atoms attached to the ring. This steric hindrance essentially precludes conversion of Daconil to benzamide or benzoic acid derivatives. If present, these derivatives would show strong phytotoxic effects--these effects have never been noted in the use of Daconil.
- c. Newly reported data show that the bound ^{14}C -activity reported in the ^{14}C -Daconil soil studies has been identified as part of the hydroxy-metabolite residues which were not extractable by acetone alone.

Overall, based on the petitioner's rationale and the newly reported data, we now conclude that the terminal residues of Daconil have been adequately defined and on harvested crops consist largely of the parent compound (ca. 95%) and hydroxy-metabolite.

Conclusions

1. The nature of the terminal residues has been adequately defined.
2. There are adequate methods available for enforcement of the tolerances now proposed. (This conclusion is contingent upon a successful completion of the method trial now underway by MIS,CB.)
3. Residues of Daconil and its hydroxy-metabolite will not exceed the tolerances now proposed.
4. Since there are no feed items^{with residues} involved in the amended proposed tolerances, this is a Category 3 situation of 420.6(a).
5. There will be no problem of soil persistence from the proposed uses.

Recommendations

Pharmacological considerations permitting, and contingent upon the completion of a successful method trial, we recommend that the following tolerances be established: (see notes immediately below)

- 15 ppm on celery
- 5 ppm on broccoli, brussels sprouts, cabbage, cauliflower, cucumbers, melons, pumpkins, squash (winter and summer) and tomatoes
- 1 ppm on carrots and corn (kernels plus cob with husks removed.)

0.3 ppm on peanuts.

NOTES:

1. As indicated in our original review, the correct chemical names for Daconil and its hydroxy-metabolite are as follows: tetrachloroisophthalonitrile and its metabolite; 4-hydroxytrichloroisophthalonitrile and not those listed in the current regulations. We defer to PCB as to the desirability of correcting this situation when the proposed tolerances are established.

2. The petitioner originally proposed a 0.1 ppm negligible residue tolerance for peanuts. We defer to TB as to whether the presently proposed tolerance of 0.3 ppm should be categorized as a negligible residue tolerance. (TB)

3. By telecon of 4/28/71 (G. Beusch/P. C. Williams, PRD), we have learned that PRD has rendered a favorable opinion on residues.

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cc:
CF-30
Tox. Br.
PRD
PP #1F1024

WSCox:mae
5/7/71
RD/init:JGCummings/JWolff
5/6/71 4/28/71