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

R.F.

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Reregistration of Trifluralin. DowElanco letter of 3/25/91 and Proposals for the Continued Registration of Trifluralin on Root and Tuber Vegetables. CBRS No. 7827; DP BARCODE: D163129; No MRID Number

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DowElanco (letter of 3/25/91) provides discussions and summary data from 1988 residue trials on radishes and processing studies on potatoes and sugar beets. The summary data serve as the basis for proposed actions regarding establishment of a tolerance for members of the root and tuber vegetables group and the need for food/feed additive tolerances for residues in processed products of potatoes and sugar beets.

DowElanco's proposals and summary data are addressed below, along with CBRS' comments on the acceptability of these proposals. Complete data submissions are required for full evaluation regarding the need for feed additive tolerances for trifluralin residues in processed products of potatoes and sugar beets.

Background

The Trifluralin Guidance Document dated 4/87 requires additional data from crop field trials on radishes and processing studies on potatoes and sugar beets to support a tolerance for members of the Root and Tuber Vegetables Group (excluding carrots).

DowElanco (letter of 3/25/91) wishes to support trifluralin uses on root and tuber vegetables and proposes the following actions:

1. Conduct one additional residue trial on radishes.
2. Conduct additional potato processing studies using potatoes treated at 1x to determine whether or not trifluralin residues in processed products exceed 0.05 ppm.
3. Propose a 0.05 ppm tolerance for residues of trifluralin in or on members of the Root and Tuber Vegetables Group (excluding carrots). Or, if the planned potato processing study indicates residues >0.05 ppm, propose a 0.05 ppm group tolerance excluding both carrots and potatoes.
4. Rely on existing sugar beet processing studies. (DowElanco concludes from the existing data that a feed additive tolerance in dried sugar beet pulp is not needed.)

Conclusions and Recommendations

1. Radishes: Summary data presented from three 1988 field trials (two from CA and one from FL) indicate that residues of trifluralin were 0.013-0.026 ppm in or on radishes following preplant incorporated application at 0.75 lb ai/A. An additional trial, to be conducted in FL, is scheduled for 1991.

CBRS recommends that DowElanco proceed with this trial.

2. Potato processing study: Summary data from a potato processing study indicate that residues may concentrate up to 5x in wet peel and 270x in dry peel processed from potatoes treated at a 5x exaggerated rate and bearing detectable, weathered residues. DowElanco does not wish to establish feed additive tolerances for trifluralin residues in wet and dry potato peel. They reason that the 40% yield reduction incurred from the 5x exaggerated rate resulted in artificially high residues. They propose to conduct additional processing studies using potatoes treated a 1x the maximum registered rate from tests in CA, ID, and ND or MN. If the results of such trials indicate that residues in dried peel are greater than 0.05 ppm, the registrant wishes to delete the potato use and exclude the site from the root and tuber vegetables group tolerance.

CBRS Conclusion: CBRS does not recommend that the registrant conduct additional processing studies at 1x because it is unlikely this rate will yield detectable residues in the raw tubers. Samples bearing nondetectable residues can be the basis of a processing study only if the raw commodity was treated at a rate equivalent to the highest theoretical concentration factor for the processed products. In the case of potatoes, 5x is an appropriate exaggeration rate. The presented summary data clearly indicate that a feed additive tolerance for residues in dried potato peel is needed. The complete study, including

representative chromatograms, is needed for full evaluation. In the event the Registrant elects to delete the use on potatoes, CBRS would not favorably recommend for establishment of a tolerance for residues in or on members of the Root and Tuber Vegetables Group excluding two representative commodities, potatoes and carrots.

3. Sugar beet processing study: Summary data from a sugar beet processing study report trifluralin residues of 0.05-0.058 ppm in dried sugar beet pulp processed from sugar beets bearing nondetectable (<0.01 ppm) residues. Residues were nondetectable (<0.01 ppm) in molasses and sugar. Sugar beets were treated at a 5x exaggerated rate which is equivalent to the maximum theoretical concentration factor for processed sugar beet products. The registrant reasons that residues in dried sugar beet pulp resulting from 1x application would not exceed the 0.05 ppm tolerance for residues in sugar beets; therefore, a feed additive tolerance for residues in dried sugar beet pulp is not needed.

CBRS Conclusion: The summary data clearly indicate that residues concentrate in dried sugar beet pulp. By ratio of the residue level in the processed commodity to the limit of detection in the RAC, the minimum concentration factor is estimated to be 6x. CBRS will need to evaluate the completed study, including representative chromatograms to make a determination on the need for a feed additive tolerance for trifluralin residue in dried sugar beet pulp.

cc: PADeschamp (CBRS), RF, SF, Trifluralin Reg. Std. File, Circ.
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