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PP#1G2438 and FAP#1H5284. Chlorpyrifos on wheat. Amendment of 3/25/81.

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Dow Chemical Company has amended its request for temporary tolerances for residues of the insecticide chlorpyrifos [0,0-diethyl-0-(3,5,6trichloro-2-pyridyl) phosphorothioate] and its metabolite 3,5,6-trichloro-2-pyridinol in or on wheat at 0.15 ppm and wheat straw at 1.5 ppm, and a temporary food additive tolerance of 0.5 ppm for milling and baking fractions of wheat (except flour).

Our objections to the establishment of these tolerances and petitioner's reply are listed below.

Deficiency 1 (conclusion 3a). The proposed temporary tolerance for wheat grain is not adequate. In order to determine an appropriate temporary tolerance level, we will require additional residue data reflecting the maximum proposed use (1 application of 0.5 lb a.i./A followed by a second at 1 lb a.i./A and a 14 day PHI).

Petitioner's reply: Dow now proposes a label restriction not to apply more than 0.5 lb a.i./A closer than 14 days before harvest nor 1.0 lb a.i./A closer than 42 days before harvest. With this label restriction, they are proposing a tolerance of 1 ppm on wheat.

Conclusion: The residue data reviewed previously (L. Bradley, 1/15/81) indicate maximum residues of 0.8 ppm (0.55 ppm parent plus 0.25 ppm TCP) from 3 applications of 0.5 lb a.i./A. All residue data reflected the same use pattern, which was 14 days between applications of 0.5 lb a.i./A, 3 applications and a 14 day PHI. Given the known short half life of chlorpyrifos, application of 1.0 lb at 42 days PHI is expected to produce lower residue levels that 2 applications of 0.5 lb at PHI's of 42 and 28 days. Thus the residues from the currently proposed use are reasonably expected not to exceed those from the submitted residue data.

However, the wording of the proposed label makes no mention of a PHI when applying rates lower than 0.5 lb/A. The label should be revised to read "do not apply closer than 14 days before harvest and do not apply at rates higher than 1 pint per acre closer than 42 days before harvest."

Deficiency #2 (conclusion 3b). The proposed temporary tolerance for wheat straw is not adequate. Additional residue data (see conclusion 3a) will be required.

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Petitioner's reply: Label restrictions reflecting the same PSI's as in deficiency 1 are imposed for straw. A revised tolerance proposal of 3 ppm is submitted.

Conclusion: Maximum residue levels in the straw were 2.62 ppm (1.7 ppm percent plus 0.92 ppm ICP) from 3 applications of 2.5 lb a.i./A. By the same reasoning as above, we can conclude that the temporary tolerance of 3.0 ppm will be adequate.

Provided the label restrictions concerning preharvest intervals and treatment rates are revised to read "do not feed straw from treated wheat within 14 days after application nor within 42 days after application at rates higher than 1 pint per acre, we can consider this deficiency resolved.

Deficiency 3 (Conclusion 3c). Residue data and an appropriate tolerance proposal for wheat forage should be submitted.

Petitioner's reply: A label restriction prohibiting grazing or feeding of forage to livestock is imposed.

Conclusion:

With this restriction, there is no need for a temporary tolerance on forage.

We consider this deficiency resolved.

Deficiency 4 (Conclusion 4d). The proposed temporary food additive tolerance for milling and baking fractions (except flour) of wheat is not adequate. An appropriate level for milling fractions will be 1X that for the grain.

Petitioner's reply: The revised Section F now proposes a temporary food additive tolerance of 1.5 ppm for milling and baking fractions (except flour).

Conclusion: The proposed temporary food additive tolerance is adequate. We consider this deficiency resolved.

Deficiency 5 (Conclusion 5). We are unable to reach a conclusion regarding secondary residues in meat, milk, poultry and eggs until such time as appropriate levels are established for grain, forage, straw and milling fractions.

Petitioner's reply: Now states that existing tolerances will be adequate to cover additional residues in the diets of poultry and livestock.

Conclusion: Existing tolerances, feeding studies and possible feed items are discussed in our original review of this petition (L. Bradley, 1/15/91). Now that wheat forage is excluded, possible livestock feed items are bean vines (35% of the diet at 1 ppm), corn grain (50% of the diet at 0.1

ppm), wheat grain (50% of the diet at 1.0 ppm), wheat bran (25% of the diet at 3.0 ppm) and wheat straw (10% of the diet at 3.0 ppm). From any likely combination of feed items, we would not expect the level in livestock diets to exceed 1 ppm. The existing meat and milk tolerances are adequate to cover secondary residues resulting from this level of residues in the diet.

Possible poultry feed items are beans (15% at 0.05 ppm), corn grain (70% at 0.1 ppm), wheat grain (70% at 1.0 ppm) and wheat bran (10% at 3.0 ppm). Thus, maximum levels in poultry diets could approach 1 ppm. According to the available poultry feeding study, no detectable residues (<0.01 ppm) were found in eggs at dietary levels of up to 10 ppm. While no residues (<0.01 ppm) were detected in poultry tissues at 0.3 ppm in the diet, 1 ppm in the diet gave residue levels of 0.1 ppm in poultry tissues.

Thus, the existing tolerance of 0.01 ppm for the meat, fat and meat by-products of poultry (excluding turkeys) is not adequate to cover residues likely to result from this use. A temporary tolerance level of 0.1 ppm for the meat, fat and meat byproducts of poultry will be required.

According to PP#3F1306 (F. D. R. Gee, 3/1/73), maximum residue levels in turkey tissues from the registered pen treatments were expected to be 0.17 ppm, for which the existing tolerance level of 0.2 ppm was established. This level is obviously not sufficient to include residues expected from the additional feed uses, as wheat grain alone may comprise 70% of the diet of turkeys. A temporary tolerance of 0.3 ppm for the meat, fat and meat by-products of turkeys will be required.

CONCLUSIONS AND RECOMMENDATIONS

1. Provided the label restrictions for wheat grain and straw are revised to read "do not apply closer than 14 days before harvest, and do not apply at rates higher than 1 pint per acre closer than 42 days before harvest," we conclude that the revised proposed tolerances of 1.0 ppm for wheat grain, 3.0 ppm for wheat straw and 3.0 ppm for milling and baking fractions (except flour) of wheat are adequate to cover residues likely to result form the proposed use. A revised Section B should be submitted.

2. The existing tolerances for eggs, milk and the meat, fat and meat by-products of goats, hogs, horses and sheep, as well as the existing tolerance for the meat, fat and meat by-products of cattle are adequate to cover residues likely to result from the proposed use.

3. The existing tolerance for the meat, fat and meat by-products of poultry (excluding turkey) is not adequate. A temporary tolerance of 0.1 ppm will be required. A revised Section F should be submitted.

4. The existing tolerance for the meat, fat and meat by-products of turkey is not adequate to cover residues likely to result from the combination of pen treatments and dietary residues. A temporary tolerance of 0.3 ppm will be required. A revised Section F should be submitted.

We recommend against the establishment of the proposed tolerance for the reasons given in Conclusions 1, 3 and 4.

cc: Reading file, Circu, Reviewer, FDA, TOX, EEB, EFB, Randy Watts, PP# NO. TS-769:Reviewer:LMBradley:Typed by LMB:LDT:X77324:CM#2:RM:310:Date:3/25/81