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

JUN 25 1987

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

Memorandum

Subject: LA860003. 24(C) Special Local Needs Registration  
for Acephate (Orthene® 75S, EPA Reg. No. 239-  
2418) Hopper-box Cottonseed Treatment.  
No Accession Number / No MRID Number  
RCB #2255

From: Michael S. Metzger, Chemist  
Residue Chemistry Branch  
Hazard Evaluation Division (TS-769C)

Handwritten signature of Michael S. Metzger in black ink.

Thru: Edward Zager, Section Head, SRS 2  
Residue Chemistry Branch  
Hazard Evaluation Division (TS-769C)

Handwritten signature of Edward Zager in black ink.

To: William Miller, PM 16  
Registration Division (TS-767C)

H. F. Calhoun, III, of the Louisiana Department of Agriculture submits comments regarding RCB's previous suggestions (M. Loftus, 6/15/84) of restricting hopper-box seed treatments of acephate to cottonseed to 6.4 oz.a.i./100 lbs. seed. This 24(C) request was submitted by Chevron Chemical Company for their acephate formulation Orthene® 75S Soluble Powder (75% a.i.). Mr. Calhoun requests that this restriction not be included on the 24(C) label.

Tolerances are established for combined residues of acephate (O,S-dimethyl acetylphosphoramidothioate) and its cholinesterase-inhibiting metabolite methamidophos (O,S-dimethylphosphoramidothioate) in or on numerous commodities ranging from 0.02 ppm in or on sweet corn (K+CWHR)(not more than 0.01 ppm methamidophos) to 15 ppm in or on mint hay (limited to 1 ppm methamidophos), and include 2 ppm in or on cottonseed, 4FA ppm in or on cottonseed hulls and 8FA ppm in or on cottonseed meal (40 CFR 180.108; 21 CFR 561.20, 193.10; 40 CFR 180.3 (e)(5)). A Registration Standard has been completed for methamidophos (1982).

Acephate is currently registered for seed treatments of cottonseed at a maximum rate of 8.5 ozs. product (6.4 ozs.a.i.)/100 lbs. seed using enough water to give adequate coverage of the seed. Additionally, acephate is registered

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for spray applications to cotton plants at a rate of 1 1/3 lbs. product (1 lb.a.i.)/A/application with a 21-day PHI imposed.

The proposed use calls for hopper-box applications of the dry powder (Orthene® 75S formulation) to cottonseed at 3-4 ozs. product (2.25-3.0 ozs.a.i.)/A. RCB previously recommended favorably for this use with the stipulations that no more than 8.5 ozs. product (6.4 ozs. a.i.)/100 lbs. seed be applied, and that a restriction be imposed restricting treated cottonseed from use as food, animal feed or for processing into oil (see M. Loftus, 6/15/84; W. Anthony, 4/15/87). The current request is that 6.4 ozs.a.i./100 lbs. seed restriction not be included on the label. Mr. Calhoun's comments and RCB responses are presented below.

#### Submitor's Comments

- I. Cottonseed treated with Orthene® 75S as a hopperbox seed treatment should not be considered as commercially treated seed.
  - A. Treatment is made by the farmer directly into the seed hopper on the planter in the field. The farmer does this by placing seed into the hopper on the planter and adding the Orthene® 75S to the seed. The treated seed is then planted by the farmer.
  - B. There is little or no possibility of this treated seed being used for food, animal feed or processed to oil.
  - C. The hopperbox application of Orthene® 75S is not considered a commercial seed treatment because it is done by the farmer.

#### RCB's Response

RCB accepts these comments without objection. A restriction is imposed for using treated cottonseed for use as food, animal feed or for processing into oil. We believe that our previous recommendations in favor of the proposed use implicitly express our agreement that treated seed will not be diverted to uses other than use in planting.

#### Submittor's Comments

- II. Restricting the amount off Orthene® 75S to 8.5 ozs./cwt. would render the label useless.
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- A. The data which supports the label is based on 3-4 ozs. formulated product/acre.
1. Cottonseed is planted at rates ranging from 8 to 25 lbs./acre. If you take the high planting rate (25 lbs./acre) and were to use the 8.5 ozs./cwt. restriction, you would only be putting 2.125 ozs. product per acre, and at the 8 lbs. seeding rate, the amount/acre would only be 0.68 ozs. (0.51 ozs.a.i. = 0.031 lbs.a.i./A).
  2. It is helpful to understand that coverage and adhesion vastly differ when considering a commercial slurry treatment (as Orthene® 80 commercial seed treatment is labeled) and a dry hopperbox treatment.
- B. Tolerance is NOT a consideration.
1. Orthene® 75S is labeled as a full season cotton spray with rates up to 1.33 lbs. form./A/spray with no restriction as to the number of applications permissible or total number of lbs. active per acre per season.
    - a. With this type of foliar application label and allowing sprays up to 21 days before harvest on open cotton residue on or in cotton grown from a treated seed is not even a consideration; especially when taking into account that there is approximately six (6) months between treatment and harvest.

#### RCB's Response

The above comments suggest that the submitter believes it is unlikely that the proposed use will cause the 2 ppm tolerance for cottonseed to be exceeded based on residue data reflecting acephate applications to cottonseed made in water, and based on the assumption that the great majority of the residue in or on cottonseed will result from foliar application of the pesticide to the cotton plant.

Residue data submitted previously for seed treatments in water at 6.4 ozs.a.i./100 lbs. seed showed no detectable residues in seeds or gin trash (<0.02 ppm), and residues in whole plants at a 61-day PHI ranging from <0.02 - 0.22 ppm (<0.01 - 0.01 ppm methamidophos). Since the growing season for cotton is approximately 150 days from planting to harvest, we believe

that it is unlikely that detectable residues will be found in cottonseed or cottonseed products as a result of cottonseed treatments, either in-water or hopperbox treatments. Assuming the minimum seeding rate of 8 lbs. seed/A, the maximum proposed application rate of 3 ozs.a.i./A corresponds to 37.5 ozs.a.i./100 lbs. seed. This is approximately a 6-fold increase in the quantity a.i./100 lbs. seed although the quantity a.i./A is the same as that for the previously recommended use.

We conclude that combined residues of acephate and methamidophos will not exceed the established tolerances of 2 ppm for cottonseed, 4 ppm for hulls and 8 ppm for cottonseed meal as a result of the proposed use for the following reasons. First, residues resulting from the proposed use are likely to be insignificant relative to the residues resulting from foliar applications, even at the higher quantity a.i./100 lbs. seed application rate. This is based on the residue data for seed treatment showing no detectable residues in cottonseed at a 6.4 ozs.a.i./100 lbs. seed application rate. Second, the maximum application rate in quantity a.i./A is the same as the application rate for which RCB previously recommended.

#### Conclusions and Recommendations

The tolerances of 2 ppm for cottonseed, 4 ppm for cottonseed hulls and 8 ppm for cottonseed meal are not likely to be exceeded as a result of the proposed use. RCB has no objections to this 24(C) Special Local Needs Registration.

cc: Acephate S.F., R.F, Amended Use S.F., Circu, M. Metzger,  
PMSD/ISB

RDI:E.Zager:EZ:6/25/87:RDS:6/25/87

TS-769C:RCB:M.Metzger:MM:Rm803a:CM#2:6/25/87

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