

7/14/93

MEMORANDUM

SUBJECT: 352-525. Chlorimuron ethyl (128901) and Thifensulfuron methyl (128845). Label Amendment to Increase Thifensulfuron in Tank Mix with Chlorimuron ethyl on Soybeans. MRID 424927-01
DP Barcode: D184974, D184975. CBTS No. 10929, 10930.
Case: 016739, 016750: Submission: S429931, S429933.

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THRU: Debra Edwards, Chief
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DuPont is requesting supplemental labeling for tank mix use of Classic (chlorimuron ethyl) herbicide at its currently approved rate with Pinnacle (thifensulfuron methyl) at a maximum rate of 0.125 oz ai/A or twice the currently approved rate of 0.0625 oz ai/A for use on sulfonylurea-tolerant soybeans.

Tolerances have been established for chlorimuron ethyl on soybeans at 0.05 ppm (180.429) and for thifensulfuron methyl on soybeans at 0.1 ppm (180.439).

Conclusions:

CBTS concludes that residues are not likely to exceed the established tolerances for chlorimuron ethyl and thifensulfuron methyl on soybeans from the proposed use as a tank mix.

Recommendation:

CBTS has no objection to the proposed increased rate for Pinnacle to be tank mixed with Classic for use on soybeans.

Detailed Considerations

ANALYTICAL METHOD

Thifensulfuron methyl determinations were performed by method AMR 1872-90, "Analytical Method for the Quantitation of DPX-M6316 (Harmony®) in Soybeans" with minor modifications. The extraction is by a methanol/K₂HPO₄ buffer, pH 8, by blending with a Polytron® Tissumizer and centrifuged. The extract was diluted and acidified to pH 2.5-3.5. The extract was partitioned twice with dichloromethane, the dichloromethane was evaporated and the extract was reconstituted with the original methanol buffer solution. The extract was further cleaned up by HPLC and then quantified by HPLC using UV detection. The limit of quantitation is given as 0.05 ppm. Recoveries from fortification levels of 0.05, 0.1 and 0.2 ppm ranged from 78 to 110% with an average of 89%. Controls were <0.05 ppm.

A method trial for wheat and barley grain, method AMR 646-86, was conducted successfully. The method differs from the present method in different buffer solutions and extracting solvents, however, the principle of acid/base extraction and cleanup is the same. The wheat and barley method determined the residue by HPLC with a photoconductivity detector. The method was forwarded in 6/88 to be published in PAM as Method I.

RESIDUE DATA

Eleven studies were conducted in Georgia, Missouri, Mississippi, Arkansas, Illinois, Indiana, Alabama and Iowa. Soybeans were treated with thifensulfuron methyl by foliar broadcast with 0.125 oz ai/A (2X the approved rate or 1X the proposed rate) or at 0.25 oz ai/A (4X the approved rate) about 60 days before harvest. The spray contained either 1% crop oil concentrate or a nonionic surfactant (minimum 80% active ingredient). Both standard varieties and sulfonylurea-tolerant soybeans were tested.

The samples were stored under frozen conditions for no more than 7 months before analyses. Previous studies have shown thifensulfuron methyl to be stable on corn, corn forage and wheat straw after 24 months of frozen storage and on wheat grain for 36 months.

Samples of soybeans were collected at PHIs of 54 to 76 days. No detectable (<0.05 ppm) residues were found on any of the 26 samples analyzed.

CBTS concludes that residues are not likely to exceed the established tolerances for chlorimuron ethyl and thifensulfuron methyl on soybeans from the proposed use as a tank mix.

cc: Circu, RF, Thifensulfuron S.F., Bradley
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