



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

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MEMORANDUM:

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: ID #034704-00242. TRIFLURALIN® on sugar cane in the
State of Hawaii: amended registration. [DEB: #7063]

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TO: Steve Robbins, PM #23
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The Platte Chemical Co., Greeley, CO., has requested an amendment to the current registered label for their herbicide, CLEAN CROP TRIFLURALIN®-4EC [EPA Reg.#34704-242], formulated as an emulsifiable concentrate, in/on sugarcane for control of most annual grasses, including guineagrass, in Hawaii only. The requested amendment, would permit additional applications of this product.

Tolerances

Tolerances are established for residues of trifluralin [α,α,α -Trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine] in/on sugarcane at 0.05(N)ppm. Tolerances are also established for numerous other RACs ranging from 0.05(N)ppm to 1.0 ppm in/on carrots. A Registration Standard for trifluralin was issued 7/3/85.

Registered use

In Hawaii, TRIFLURALIN®-4EC [4 lbs ai /gallon] is registered for use on sugarcane at 6 to 8 pints (3 lb to 4 lb ai) per acre per

season for all soil Textures. Surface spray TRIFLURALIN®-4EC after planting (for plant cane) or after harvesting (for ratoon cane), before weeds and cane emerge. In plant cane, the beds should be formed or rolled before application. In ratoon cane, the crop residue should be removed before application.

Note to PM: According to the trifluralin Registration Standard; "The available data are sufficient to ascertain that trifluralin residues in or on sugarcane will not exceed the established 0.05 ppm tolerance. However, inadequate data regarding residue concentration in sugarcane processed products are available because samples were processed from cane bearing no measurable residues."

Proposed Use

The registrant has proposed amending the registered use by permitting one or two additional "over-the-top" applications of trifluralin. This would permit up to 12 lb ai/per acre per season or 3X the registered use.

Proposed Directions: Six to 8 pints (3 lb to 4 lb ai) of CLEAN CROP TRIFLURALIN®-4EC would be applied in 10 to 40 gallons of water per acre with ground equipment, or 5 to 10 gallons of water per acre by air. Following the first application, shortly after planting (for plant cane) or after harvesting (for ratoon cane), additional applications of trifluralin could include one or two over-the-top applications of trifluralin at intervals of about two months. The last application should be completed prior to crop leaf canopy closure, and no later than 18 months before harvest.

Analysis

A method for enforcement is available in PAM Vol.I, II. This method was submitted with PP #7F0555. The sensitivity of the method is 0.01 ppm.

Residues

No residue data were submitted with this amended registration request. The Elanco Co., a division of Eli Lilly, submitted data from six tests (five via surface spray and one by aerial application) conducted in Hawaii in which sugarcane was treated with trifluralin at rates ranging from 2 to 6 lbs ai per acre, [MRID #00105727]. These studies reflect: (1) post-plant or post-rattooning ground application at 3 to 6 lb ai(0.75X to 1.5X)/A the maximum registered use; (2) post-plant aerial application at

3 lbs ai(0.75X)/A; and (3) split ground applications of 2 lb ai(0.5X) plus 2 lb ai(0.5X)/A made post-plant and at layby.¹

Results: Residues were nondetectable (0.01 ppm) in/on 10 sugarcane(stalk and leaf) samples harvested 51 to 456 days post-treatment. Sample analysis were performed 6 to 50 days following collection. Recovery values from six determinations were 67% to 98% at a fortification levels of 0.01 ppm. [See MRID #00105727 in Registration Standard, 7/3/86].

Based on the available data, we are unable to conclude whether the established tolerance for trifluralin in/on sugarcane at 0.05(N)ppm will be adequate to cover the proposed label amendment which would allow one to two additional applications (post-emergence) at 3 or 4 lb ai/A and still stipulate a 18 month PHI. A review of the study completed by Elanco under MRID 00105727, as shown above, indicated that of the six studies - the time lapse between treatment and harvest were: 80 days, 76 days, 90 days, 455 days, 335 days, and 350 days(aerial). On the assumption that the time lapse from planting to harvest (plant cane) is two years, it would seem unlikely that a 18 month PHI could exist following the application of two additional treatments with trifluralin (post-emergence), made at a two month interval.

The Registration Standard concludes that the metabolism of trifluralin in plants and animals is not adequately understood (Residue Chapter, pp. 2 & 17). The data required in the Registration Standard regarding plant and animal metabolism and processing studies from application of trifluralin to sugarcane have not been provided.

Conclusion

We conclude, based on the available residue data, that residues of trifluralin in/on sugarcane following the addition of one or two over-the-top applications or one or two aerial applications of trifluralin (post-emergence), made at intervals of two months, may exceed the established tolerance of 0.05(N) ppm.

Additionally, there are outstanding Registration Standard data requirements for plant and animal metabolism data and sugarcane processing studies.

¹ Layby: Period of time in row crops between the last cultivation, owing to the height of plants, and the harvest.

Recommendation

From the conclusion drawn above, CBRS recommends against the proposed amended registration requesting one to two additional applications of trifluralin (post-emergence) in/on sugarcane in Hawaii.

For further consideration, the registrant should submit the data required by the Registration Standard and submit residue data reflecting the proposed use.

CC: Reviewer;SF[Trifluralin];RF;ISB/PMSD/Circulation;R.Schmitt.
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