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

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

MEMORANDUM

To: Joanne Miller/Jesse Mayes, Product Manager 23
Herbicide/Fungicide Branch
Registration Division (H7505)

From: Henry Jacoby, Chief
Environmental Fate and Ground Water Branch
Environmental Fate and Effects Division (H7507C)

Subject: Glufosinate Ammonium Review

Attached you will find the most recent review of Glufosinate ammonium environmental fate data. Most data requirements are satisfied, as will be seen in Table A. There are several remaining issues to be addressed:

1) CONFINED ROTATIONAL CROPS

The acceptable study was done at 1 kg/ha [4.3 pts/a], which is less than the single-application maximum label rate of 1.68 kg/ha [7.2 pts/a]. **The study will not support rotational crop intervals for use rates higher than 1 kg/ha [4.3 pts/a]. At the use rate of 1 kg/ha [4.3 pts/a], a 120 day rotational crop interval is supported for radishes, carrots, and spinach (root and leafy vegetable crops).** HOE 061517 was found in wheat planted 120 days after treatment, at ca. 10-20% of total radiolabelled residues (0.01-0.02 ppm). Most residues were from the "carbon pool" and were in cellulosic material. It is important that Toxicology Branch be consulted as to the toxicological significance of 0.01 to 0.02 ppm of HOE 061517 in wheat. Should Toxicology Branch feel that 0.01 to 0.02 ppm of HOE 061517 is toxicologically significant, then the applicant would need to petition the Agency for a rotational crop tolerance on wheat (for 120 day rotational interval) or propose a longer interval for wheat (supported with a C¹⁴ labelled confined rotational crop data). If Toxicologic Branch determines that 0.01 to 0.02 ppm of HOE 061517 is not toxicologically significant than EFGWB would revise its position on wheat (i.e., rotation to wheat 120 days after application of 1 kg/ha [4.3 pts/a] would be acceptable).

2) FIELD DISSIPATION

In both submitted studies, application rate was not confirmed, and there were other problems as well. Because of these deficiencies, a reliable field half-life is not available at this time. We feel strongly that these data are necessary to

the final assessment of glufosinate ammonium. The data reviewed to date indicate that glufosinate ammonium will not persist. However the degradates of glufosinate ammonium are mobile and the possibility for movement down the soil profile is real. Because the present field dissipation studies do not represent actual use rate, it is not possible to conclude that the degradates would not move if maximum label rates were applied. EFGWB would recommend requesting additional confirmatory field dissipation studies using maximum label rates.

3) GROUND AND SURFACE WATER

In vulnerable areas, Glufosinate ammonium or degradates could reach ground water. Accordingly, EFGWB recommends putting an advisory statement on the label. The ground-water advisory should read as follows:

This chemical demonstrates the properties and characteristics generally associated with chemicals detected in ground water. Users are cautioned to exercise care in applying this chemical where soils are permeable or in karst areas. Consult with the pesticide state lead agency for information regarding soil permeability and aquifer vulnerability in your area.

Upon receipt and review of the additional field dissipation studies, a decision will be made regarding the continued need for the ground-water advisory. The company should consult with EFGWB staff as to where additional field dissipation studies should be carried out. It should be note that the maximum recommended application per season is 3 ppm (2 x 1.5 ppm) in a 6 inch soil layer.

Glufosinate ammonium and degradates can also be carried into surface water either with run-off water or associated soil particles.