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

OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

February 5, 1993

MEMORANDUM

SUBJECT: Glufosinate Ammonium
Use on Turf

Henry Jacoby 2/5/93

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

TO: Frank Sanders, Chief
Fungicide-Herbicide Branch
Registration Division (H7505C)

In our previous review covering numerous uses, including turf, EFGWB indicated that the field dissipation study was not adequate to support the proposed registrations. FHB/RD has now requested that the Branch reconsider the data requirements based on the applicants revised application limiting the use of glufosinate ammonium to turf only. The major deficiency with the available field dissipation studies is the low zero day recoveries.

In our review, EFGWB indicated that degradation of the chemical in soil was the result of photodegradation in conjunction with microbial degradation. The degradates of glufosinate are highly polar and mobile moieties. The chemical demonstrated in laboratory studies those properties of mobility and persistence sufficient to raise a concern about its potential to contaminate ground water. However, in the available field dissipation studies, the chemical was less persistent and did not move downward through the soil profile (i.e., half-life was approximately 10 days and no movement beyond 10 cm [4 inches]). These results lessen our concern about leachability; however, due to low sampling results at zero day, EFGWB is not certain whether this conclusion is scientifically sound. An additional field study with high zero day recoveries would confirm our position.

In the Branch's review, a conclusion was reached that glufosinate ammonium and its degradates have demonstrated those properties of persistence and mobility that raise concern about ground-water contamination. These properties also indicate that the moieties may run-off the target site during a rain event. In addressing ground-water contamination, the Branch recommended a ground-water advisory similar to the following:

> **Glufosinate ammonium and its degradates have those properties normally associated with pesticides that have been detected in ground water. Use of this product in areas with coarse soils and high water tables may result in ground-water contamination.**