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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
PESTICIDES AND TOXIC
SUBSTANCES

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MEMORANDUM

SUBJECT: Dithiopyr - Turf Use: Status of Avian
Reproduction Studies

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On 12/19/90 the Ecological Effects Branch (EEB) received from the Health Effects Division (HED) an expedite review of a dithiopyr two-generation rat reproduction study (MRID 416956-01). This review contained tentative conclusions based on a cursory review of the study by staff scientists. From their conclusions we note the following:

1. Dithiopyr does not affect "normal reproductive performance" at dietary levels of 25, 250, and 2500 ppm;
2. The LEL for liver toxicity in parental animals is 250 ppm;
3. The LEL for liver toxicity in pups is 250 ppm;
4. The NOEL for this study is 25 ppm; and
5. Liver lesions occurred in all treatment levels, although those observed in the lowest treatment group (25 ppm) were not statistically significant when compared to controls.

One of the four criteria for the requirement of the avian reproduction studies is whether the mammalian studies indicate reproduction in terrestrial vertebrates may be adversely affected. The HED tentative conclusions of the rat reproduction study do not raise any additional concerns and do provide assurance that dithiopyr is not likely to cause any mammalian reproductive problems when used as proposed.

After reviewing HED's tentative conclusions, considering the use pattern, persistence, and potential for exposure for breeding birds to dithiopyr, EEB concludes:

1. Avian reproduction studies with an upland gamebird and a waterfowl species are still required to fully characterize the chronic risks to nontarget avian wildlife.¹
2. Results of the rat reproduction study do not meet the criteria for requiring avian reproduction studies and the results do not raise any new ecological concerns.
3. Terrestrial mammals are unlikely to be adversely affected by the proposed use on turf.

If you have any questions on the above, please feel free to contact me.

¹ TGAI must be used and test concentrations are to be measured throughout the duration of the studies.