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

December 4, 1985

004855

MEMORANDUM

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

TO: William Dykstra, Ph.D.
Reviewer, Toxicology Branch, TS-769

FROM: Louis Kasza, D.V.M., Ph.D. L K.
Pathologist, Toxicology Branch, TS-769

SUBJECT: Glyphosphate -- Evaluation of Kidney Tumors in Male Mice.
Chronic Feeding Study.

INTRODUCTION:

Tumors (0 (1)*; 0; 1; 3) were found in the kidneys of male mice at different dose levels. There were differences in the pathologists' opinions as to whether the small localized change in one kidney of the control group (#1028) represented a tumor or not. In order to provide more information, the Agency recommended the preparation of three (3) additional sections from each kidney in the male groups. "The lesion was not present in the recut specimens from that animal" in the control group (#1028). In the final re-evaluation of the questionable control kidney slides (#1028), the conclusion was formulated that "The pathology staff at Bio/dynamics and I (Dr. McConnell) reviewed the lesion and concur that it may be representative of a developing tumor".

MATERIALS AND METHODS:

I (Dr. Kasza, Branch Pathologist) requested all kidney sections from male mice. After selection of slides from all animals in which kidney tumors were diagnosed, I studied them under the microscope.

RESULTS:

There was no difference in diagnoses between my and other pathologists' diagnoses with respect to kidney tumors in mid- (#3023) and high dose (#4029, 4023, 4041) groups. With regard to the questionable male control kidney (#1028), it is my opinion that the presence of a tumor can not definitely be established. My interpretation is similar to the conclusion of Bio/dynamics' pathology staff and Dr. McConnell, that the lesion "may be" a proliferative change having the potential to lead to the development of a frank tumor. But as the tissue can be seen under the microscope as a small well-demarcated focal cell aggregate morphologically different from the healthy looking surrounding kidney tissue, this morphological alteration does not represent a pathophysiologically significant change.

*In parentheses is the review pathologist's findings.

cc: T. Farber
W. Burnam
R. Engler
R. Zendzian

Test for Significance of Differences Between Proportions 11/13/85

renal tubule adenoma mice

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ppm	# RESP	Total	%	+/-2(S.D.)	One Tail P Statistic Fisher's
0.000	1	49	2.04	+/-(4.98)	
1000.000	0	49	0.00	+/-(1.02)	$$$$$
5000.000	1	50	2.00	+/-(4.88)	$$$$$
30000.000	3	50	6.00	+/-(7.58)	0.316

This linear trend test often gives incorrect results

Test for a linear trend is not significant

Test for Significance of Differences Between Proportions 12/11/85

renal tublule adenoma ,male mice

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ppm	# RESP	Total	%	+/-2(S.D.)	One Tail P Statistic Fisher's
0.000	0	49	0.00	+/-(1.02)	
1000.000	0	49	0.00	+/-(1.02)	$$$$$$
5000.000	1	50	2.00	+/-(4.88)	0.505
30000.000	3	50	6.00	+/-(7.58)	0.125

This linear trend test often gives incorrect results

Test for Linear Trend in Proportions P = 0.016