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

8/8/86

MEMORANDUM:

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

SUBJECT: Roundup; EPA Reg. No. 524-308; PP# 6E3424; Glyphosate in/on atemoya, carambola, and sugar apple at 0.2 ppm; "Free Standing" Summary

Caswell No. 661A
Project No. 2078
Record No. 175962

TO: Hoyt Jamerson
Product Manager (43)
Registration Division (TS-767)
and
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: Edwin Budd, Section Head
Review Section II
Toxicology Branch
Hazard Evaluation Division (TS-769)

EWB 8/12/86

FROM: William Dykstra
Toxicology Branch
Hazard Evaluation Division (TS-769)

William Dykstra 8/8/86

1. The data available in considering the tolerances include:

o Rat oral LD_{50}	:	4320 mg/kg (M+F)
o Rabbit teratology	:	Negative: 350 mg/kg (HDT)
o Rat teratology	:	Negative: 3500 mg/kg (HDT)
o 3-generation rat reproduction	:	NOEL = 10 mg/kg/day
o 26-month rat feeding study	:	Oncogenic potential: negative NOEL = 31 mg/kg/day (HDT)
o 2-year oncogenic mouse feeding study	:	Oncogenic potential: indeterminate at 30,000 ppm (HDT)
o Multi-test mutagenic studies	:	Negative
o One-year dog study	:	Tentative NOEL = 20 mg/kg/day

2. No data are currently lacking. However, based on the SAP review of the oncogenic potential of glyphosate, it was concluded that "there be a data call-in for further studies in rats and/or mice to clarify unresolved questions." A repeat of the chronic/oncogenic rat feeding study at dosages corresponding to the maximum tolerated dose and a repeat of the mouse oncogenicity study will be required to further address the MTD questions relating to the oncogenicity of glyphosate.

3. The registrant will be informed of these repeat studies.

4. Tolerances have been established for the combined residues of glyphosate and its metabolite aminomethyl phosphonic acid in several raw agricultural commodities (40 CFR 180.364).

5. Published tolerances utilize 22.81% of the ADI.

The current action utilizes 0.001% of the ADI.

6. The ADI is based on the NOEL of 10 mg/kg/day in the 3-generation rat reproduction study. A 100 fold safety factor was utilized in calculating the ADI.

$$ADI = \frac{NOEL}{100}$$

$$ADI = 10 \text{ mg/kg/day} \times \frac{1}{100}$$

$$ADI = 0.10 \text{ mg/kg/day}$$

The MPI is 6.0 mg/day for a 60 kg person.

7. There are no pending regulatory actions against registration of the pesticide.

8. The Agency recently requested the SAP to consider the potential oncogenicity of glyphosate. In their 2/24/86 report, the SAP concluded that "glyphosate be categorized as Group D (not classified) and that there be a data call-in for further studies in rats and/or mice to clarify unresolved questions."

If the Agency concurs with the SAP position, glyphosate may not be considered oncogenic in male mice. If this is the case, the Delaney clause may not apply to 409 tolerances for glyphosate.

Depending of the Agency's position relative to the SAP conclusions, the requested tolerances may or may not be toxicologically supported.

TOXICOLOGY BRANCH ADI PRINTOUT Date: 07/21/86

Glyphosate (+ salts) 3gen reprod.- rat ADI = 0.100000 mg/kg/day
Caswell #661A NOEL = 10.0000 mg/kg Safety Factor = 100
CFR No. 180.364 LEL = 30.0000 mg/kg
Status: TOX ADI complete 2/28/86. ORD verified 3/11/86.

DRAFT

RESIDUE CONTRIBUTION OF PUBLISHED TOLERANCES

	CROP	TOLERANCE (PPM)	PETITION NUMBER	FOOD FACTOR	MG/DAY
5	Asparagus	0.200		0.14	0.000420000
6	Avocados	0.200		0.03	0.000090000
7	Bananas	0.200		1.42	0.004260000
33	Citrus fruits	0.200		3.81	0.011430000
36	Coffee	1.000		0.75	0.011250000
41	Cottonseed (oil)	15.000		0.15	0.033750000
44	Cranberries	0.200		0.03	0.000090000
49	Cucurbits	0.100		2.84	0.004260000
59	Fish, shellfish	0.250		1.08	0.004050000
60	Fruiting vegetables	0.100		2.99	0.004485000
64	Grain crops	0.100		13.79	0.020685000
66	Grapes, including raisins	0.100		0.49	0.000735000
73	Hops	0.100		0.03	0.000045000
80	Leafy vegetables	0.200		2.76	0.008280000
88	Mangoes	0.200		0.03	0.000090000
96	Molasses	20.000		0.03	0.009000000
101	Nuts	0.200		0.10	0.000300000
104	Olives	0.100		0.06	0.000090000
109	Papayas	0.200		0.03	0.000090000
115	Peanuts	0.100		0.36	0.000540000
123	Pineapple	0.100		0.30	0.000450000
126	Pome fruits	0.200		2.79	0.008370000
138	Root crop vegetables	0.200		11.00	0.033000000
143	Seed and Pod vegetables	0.200		3.66	0.010980000
146	Small fruits and berries	0.100		0.83	0.001245000
148	Soybeans (oil)	6.000	5F1536	0.92	0.082800000
151	Stone fruits	0.200		1.25	0.003750000
154	Sugar, cane and beet	2.000		3.64	0.109200000
162	Tea	4.000		0.07	0.004200000
184	Guava	0.200		0.03	0.000090000
198	Potable water	0.500		133.33	0.999975000
202	Palm oil	0.100		0.03	0.000045000
203	Kidney	0.500		0.03	0.000225000
210	Pistachio nuts	0.200		0.03	0.000090000
211	Liver	0.500		0.03	0.000225000

TMRC	% ADI
0.022810 mg/kg/day (60kg BW, 1.5kg diet)	22.809750

RESIDUE CONTRIBUTION OF TOX-APPROVED TOLERANCES

	CROP	TOLERANCE (PPM)	PETITION NUMBER	FOOD FACTOR	MG/DAY
35	Coconut	0.030	2F2680	0.03	0.000013500
59	Fish, shellfish	2.750	3F2956	1.08	0.044550000
156	Sunflower	0.100	6F3408	0.03	0.000045000
170	Wheat	0.200	3F2809	10.36	0.031080000

TMRC
0.024071 mg/kg/day (60kg BW, 1.5kg diet)

% ADI
24.071225

RESIDUE CONTRIBUTION OF NEW (PENDING) TOLERANCES

	CROP	TOLERANCE (PPM)	PETITION NUMBER	FOOD FACTOR	MG/DAY
214	Atemoya, Carambola, Sugar Apple	0.200	6E3424	0.03	0.000090000

TMRC
0.024073 mg/kg/day (60kg BW, 1.5kg diet)

% ADI
24.072725
