2-23-71

RENey:ow
February 23, 1971

Evaluation of Pesticide Petition Number 1F1036 for
3',4'-dichloropropionalide (Propanil) and its
metabolites calculated as Propanil
Submitted by Monsanto
Filed December 10, 1970

I. Introduction

1. Other petitions 8F0667 and 0F0932 by Rohm and Haas.

2. The petitioner is proposing the following tolerances:

Food	Tolerance PPM
Rice	2.0
Rice straw	75.0
Milk	0.05
Meat, fat and meat by-products of cattle, hogs, sheep, goats, horses, poultry, and eggs	0.1

3. Food additive tolerance proposed:

Rice bran	10.0 ppm
Rice hulls	6.0 ppm

4. Products and formulations are:

EC Rogue (Propanil) 4 lbs/gal

Propanil 45.49%

[redacted]

and/or

Propanil 45.33%

[redacted]

EC Rogue (Propanil) 3 lbs/gal

Propanil 35.88%

[redacted]

INERT INGREDIENT INFORMATION IS NOT INCLUDED

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[redacted]

and/or

Propanil 35.73%

[redacted]

Rogue (Propanil) 50% Technical

Propanil 50.52%

[redacted]

II. Directions for Use

	Formulations	
	4 lbs/gal	3 lbs/gal
Dosage	3 qts (3 lbs/A/A)A 4-6 qts (4 to 6 lbs/A/A)A	4 qts (1.5 lbs/A/A)A grass at 1 to 3 leaf stage 5 1/3 - 8 qts (4 to 6 lbs/A/A)A grass at 4 to 6 leaf stage or longer
No of App	1 to 2	1 to 2
Time		when weeds are at 2 leaf

Do not apply after 45 days after emergence of crop
Do not apply within 14 days before or after insecticide application

III. Analytical Method

1. EC GC - titranium (DCA, DCPA, TCAB)

IV. Discussion of Data

1. Some of the data submitted on rice are listed:

Group 1 3 lbs/A/A 15 days after emergence plus 5 lbs/A/A 35 days after emergence. Total 8 lbs/A/A.

a. Crop flooded after application and drained before harvest. Nitrogen fertilizer used. Soil crowley silt loam.

b. Flooding and draining data not available. $(NH_4)_2 SO_4$ fertilizer used. Soil sharkey clay.

c. Crop flooded after application and drained before harvest. N, K and P fertilizer used. Soil crowley silt loam.

d. Crop permanent flooded. 40-50-0 and nitrogen used as fertilizer. Soil beaumont clay.

Group 2 6 lbs/A/A 35 days after emergence.

a, b, and c as above

Residues in PPM of Propanil 3,4-DCA

Group	PHI	Rough Grain	Brown Rice	Polished Rice	Rice Hulls	Rice Bran	Rice Straw
1,a	104	0.79	.70	.53	1.82	5.81	22.63
2,a	104	0.88	.61	.62	1.76	9.33	20.55
1,b	102	0.83	.89	.36	3.21	8.57	72.35
2,b	102	0.93	.88	.35	2.33	7.62	66.42
1,c	68	0.34	.26	.07	.69	2.15	16.91
2,c	68	0.50	.31	.12	.79	2.75	21.01
1,d	70	0.22	.09	.03	.40	.90	5.08
2,d	70	0.28	.14	.05	.54	1.14	2.43
1,a	check	0.72	.44	.18	1.14	4.18	10.78
1,b	check	0.07	0.08	0.04	0.34	0.96	2.32

One cannot evaluate if the difference between residues is due to flooding, fertilizer, soil type, or etc, but note the spread of residues in samples. Also, note high values in check or control sample.

2. C^{14} study indicated that the important residue is propanil followed by other (but not in order) 3,4-dichlorolactanilide, 3,4-dichloroaniline, N-(3,4-dichlorophenyl) glucosylamine, N-(3',4'-dichlorophenyl) maltosamine and sugars.

3. Cattle, swine, and poultry feeding studies indicate that residue would not exceed that of the proposed tolerance.

Rice as a feed

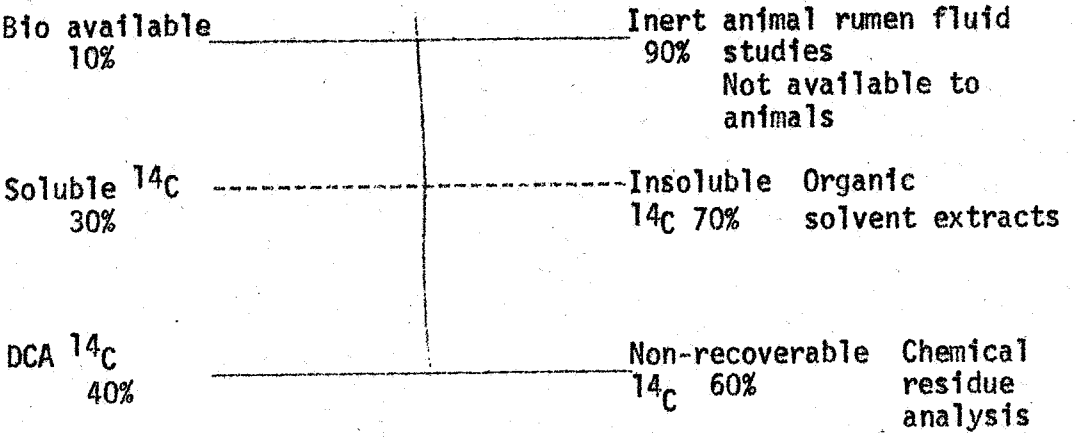
Rough rice is 50% grain ration for poultry, swine, cattle, and horses

Bran and other mill fractions are 30% of ration

Rice straw is 10% of ration

4. C^{14} study major soluble metabolites
   Propanil, DLA, DCA, GCA, and MCA.
   Minor sol. fractions DCNB and TCAB

Rogue ^{14}C



5. Propanil was cleared to DCA by the resistant plants more readily than the sensitive plants.

   Rice leaves hydrolyzes propanil to DCA in less than 5 days.

   In susceptible plants, propanil is first metabolized to 3',4'-dichlorolactanilide (D-V part II)

6. A maturity DCA accounted for 25% in rice kernels and 35% in straw. Other residues may be the DCA moiety about 20% of the residues.

7. Decomposition and metabolism of Propanil in Soil

   At 100 days 80% ^{14}C could be accounted for. At the 83 day only 20-45% was extractable. Propanil, DCA, and TCAB were present along with others. As propanil decline, DCA buildup. The major part of the activity becomes tightly bound to soil materials and could be recovered by the highly destruction Van Slyke combustion procedure.

   Pseudo propanil is possible, but cannot be found by GC-Mass spectrum since it would be buried under the large amount of unreacted propanil in the reaction mixture (D-V, part X).

V. Conclusion

1. See evaluations of PP Nos. 8F0667 and 0F0932. A favorable opinion was given to 0F0932.

2. C-77 should be sent with registration or in a separate letter.

VI. Recommendation

A favorable opinion is given.