H-29-80 2,4-D/TOX Returned 4-29-80 (29)

Section 18 request for the use of 2,4-D and Dicamba on sugarcane. Releasable

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ERS (D. Stubbs) and TOX (TS-769)

THRU: Richard D. Schmitt, Acting Chief, RCB, HED (TS-769)

The State of Louisiana is requesting a Sec. 18 exemption to use the product Weedmaster (EPA Reg No 867-203) which contains 2,4-D and dicamba for control of Aster lateriflorus in sugarcane fields.

Use of the product would result in the application of a maximum of 14,000 lbs of dicamba and 42,000 lbs of 2,4-D on a total of 54,000 acres of sugarcane.

There are presently established tolerances (180.142) for residues of 2,4-D on sugarcane at 2 ppm and sugarcane forage at 20 ppm. Additionally, there are food additive tolerances (193.100 and 561.100) for 2,4-D residues in sugarcane molasses and bagasse at 5 ppm.

There are tolerances for residues of dicamba (and its 5-hydroxy metabolite) (Sec. 180.227) on a number of raw ag. levels ranging from 0.05-40 ppm (including an 0.05 ppm tolerance for residues in milk). There is no tolerance for residues of dicamba on sugarcane.

The product to be used is Weedmaster, which contains 1 lb dicamba and 3 lbs of 2,4-D/gal. The product is to be applied at the rate of 1-1.5 quarts to a 30 inch band with 72 inch rows. This equivalent to 0.6-0.9 lb of dicamba plus 1.8-2.7 lbs 2,4-D per acre by broadcast application. There is no limit on the number of applications that can be made. The product is not to be applied after close-in or within 120 days of harvest. (Close-in is usually 125-150 days prior to harvest.)

A total of 8 studies were submitted reflecting application of 2,4-D plus dicamba. In seven of the studies, a single treatment was made with rates for dicamba ranging from 0.75-1 lb ai/A and the rates for 2,4-D ranging from 2.25-3 lbs ai/A. PHIs in these studies ranged from 53-139 days. In one study, two applications were made: the first (at emergence) at rates of 1 lb dicamba plus 3 lbs 2,4-D/A and the second (at lay-by) at 0.19 lb dicamba plus 0.56 lb 2,4-D/A (this second application was at 0.2X the maximum proposed rate) with a PHI of 45 days.

A maximum level of 2,4-D in stalks was 0.16 ppm. In these studies where leaves were analyzed, residues of 2,4-D were all reported as Reg. (<0.05 ppm).

Samples of stalks (and leaves in some studies) were also analyzed for residues of dicamba and its 5-hydroxy metabolite. Most of the samples contained no detectable residues (<0.02-0.03 ppm) with a maximum residue in stalks of 0.04 ppm in one sample.

Residues of 2,4-D are much lower than the currently established tolerances for residues in sugarcane and forage. While the data do not reflect multiple applications (with one exception), we can conclude that residues of dicamba and its 5-hydroxy metabolite will not exceed 0.1 ppm in sugarcane or forage if the use is limited to two treatments per season.

Three samples of sugarcane were processed and analyses were performed for residues of 2,4-D and dicamba (and its 5-hydroxy metabolite) on samples of raw sugar, molasses and bagasse. These data indicate no concentration of residues into any of the processing fractions.

Because of the low level of residues detected in the feed items, we see no problem of secondary residues in meat, milk, poultry or eggs from the use of this product on sugarcane.

Conclusions and Recommendations

1. The currently established 2,4-D tolerances are adequate to cover residues from this use.

2. If the number of applications is limited to two, we conclude that residues of dicamba and its 5-hydroxy metabolite will not exceed 0.1 ppm in sugarcane, forage and processing products.

3. We see no problem of secondary residues in meat, milk, poultry or eggs (from either chemical) from this use.

TOX considerations permitting and providing an administrative agreement can be made with FDA, we have no objections to the granting of this Sec. 18 exemption if the number of applications permitted per season is limited to two.

cc: Dicamba S.F.
Sec. 18 file
Circu
Reviewer
S-769:RCR:Reviewer:A.Rathman:LDT:X77324:CM#2:RM:810:Date:4/26/80
DI:Section Head:PJH:Date:4/24/80:RDS:Date:4/24/80

CFR 180.2?? Dicamba 4/29/80

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ACCEPTABLE DAILY INTAKE DATA

Dog NOEL mg/kg	NOEL ppm	S.F.	ADI mg/kg/day	MPI mg/day/60kg
1.250	50.00	100	0.0125	0.7500

Published Tolerances

CROP	Tolerance	Food Factor	mg/day/1.5kg
Asparagus(5)	3.000	0.14	0.00644
Sorghum(147)	3.000	0.03	0.00135
Corn,grain(68)	0.500	1.00	0.00750
Barley(8)	0.500	0.03	0.00023
Oats(102)	0.500	0.36	0.00268
Wheat(170)	0.500	10.36	0.07772
Milk&Dairy Products(93)	0.050	28.62	0.02146

MPI	TMRC	% ADI
0.7500 mg/day/60kg	0.1174 mg/day/1.5kg	15.65

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Current Action 9E2166, Section 18

CROP	Tolerance	Food Factor	mg/day/1.5kg
Millet(94)	0.050	0.03	0.00002
Sugar,cane&beet(154)	0.100	3.64	0.00546

MPI	TMRC	% ADI
0.7500 mg/day/60kg	0.1229 mg/day/1.5kg	16.38

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CFR 180.1 2,4-. 8/27/79

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ACCEPTABLE DAILY INTAKE DATA

Dog NOEL mg/kg	NOEL ppm	S.F.	ADI mg/kg/day	MPI mg/day/60kg
12.500	500.00	100	0.1250	7.5000

Published Tolerances

CROP	Tolerance	Food Factor	mg/day/1.5kg
Apples(2)	5.000	2.53	0.1[illegible]875
Citrus Fruits(33)	5.000	3.81	0.2[illegible]90
Cucurbits(49)	0.100	2.84	0.[illegible]26
Pears(116)	5.000	0.26	0.[illegible]16
Quinces(132)	5.000	0.0[illegible]	0.[illegible]5
Potatoes(127)	0.200	5.[illegible]	0.0[illegible]3
Sugar,cane&beet(154)	2.000	3.[illegible]	0.10[illegible]5
Barley(8)	0.500	0.[illegible]	0.00[illegible]3
Oats(102)	0.500	[illegible]	0.002[illegible]8
Rye(140)	0.500	[illegible]	0.000[illegible]3
Wheat(170)	0.500	10.[illegible]	0.077[illegible]2
Corn,all types(38)	0.500	2.[illegible]	0.018[illegible]3
Cranberries(44)	0.500	0.[illegible]	0.000[illegible]
Grapes, inc raisins(66)	0.500	[illegible]9	0.003[illegible]
Sorghum(147)	0.500	0.03	0.00[illegible]3
Blueberries([illegible]	0.100	0.03	0.000[illegible]5
Rice(137)	0.100	.55	0.00083
Citrus Fruits(33)	0.100	.81	0.00[illegible]72
Fruiting Vegetables(60)	0.100	.99	0.00[illegible]9
Grain Crops(64)	0.100	[illegible]9	0.02[illegible]9
Leafy Vegetables(80)	0.100	.76	0.00[illegible]4
Nuts(101)	0.100	.10	0.00[illegible]5
Pome Fruits(126)	0.100	.79	0.00[illegible]
Root Crop Veg(138)	0.100	[illegible]00	0.01[illegible]
Seed&Pod Veg(143)	0.100	.66	.0054[illegible]
Small Fruit,berries(146)	0.100	.83	.0012[illegible]
Stone Fruits(151)	0.100	.25	0.0018[illegible]
Avocados(6)	0.100	2.03	0.0003[illegible]
Cottonseed(41)	0.100	0.[illegible]5	0.00022
Hops(73)	0.100	0.[illegible]3	0.00005
Strawberries(152)	0.100	0.18	0.00028
Asparagus(5)	5.000	[illegible].14	0.01073
Fish,shellfish(59)	1.000	[illegible].08	0.01625
Meat, red(90)	0.200	[illegible]2.81	0.03244
Milk&Dairy Products(93)	0.100	[illegible]3.62	0.04292
Poultry(128)	0.050	[illegible].94	0.00221
Eggs(54)	0.050	[illegible].77	0.00208
Millet(94)	0.500	0.03	0.00023

MPI	TMRC	% ADI
7.5000 mg/day/60kg	0.9033 mg/day/1.5kg	12.04

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Current Action Section 18

CROP	Tolerance	Food Factor	mg/day/1.5kg

Soybeans (`48)	0.750	0.92	0.01033

MPI	TMRC	% ADI
7.5000 mg/day/60kg	0.9137 mg/day/1.5kg	12.18

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