File

DP Barcode : D207231
PC Code No : 108501
EEB Out : SEP 20 1994

To: Rebecca Cool
Product Manager 41
Registration Division (7505C)

From: Anthony F. Maciorowski, Chief
Ecological Effects Branch/EFED (7507C)

Attached, please find the EEB review of...

Reg./File # : 940R0022
Chemical Name : Pendimethalin
Type Product : Herbicide
Product Name : Prowl 3.3EC Herbicide
Company Name : Oregon Department of Agriculture
Purpose : Submission of IR-4 crop residue data for possible use in EEB risk characterization.

Action Code : 513 Date Due : 09/27/94
Scientist : A. Vaughan Date In : 09/14/94

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1(A)			72-2(A)			72-7(A)		
71-1(B)			72-2(B)			72-7(B)		
71-2(A)			72-3(A)			122-1(A)		
71-2(B)			72-3(B)			122-1(B)		
71-3			72-3(C)			122-2		
71-4(A)			72-3(D)			123-1(A)		
71-4(B)			72-3(E)			123-1(B)		
71-5(A)			72-3(F)			123-2		
71-5(B)			72-4(A)			124-1		
72-1(A)			72-4(B)			124-2		
72-1(B)			72-5			141-1		
72-1(C)			72-6			141-2		
72-1(D)						141-5		

Y=Acceptable (Study satisfied Guideline)/Concur
P=Partial (Study partially fulfilled Guideline but additional information is needed
S=Supplemental (Study provided useful information-but Guideline was not satisfied)
N=Unacceptable (Study was rejected)/Nonconcur

DP BARCODE: D207231

CASE: 285727 DATA PACKAGE RECORD DATE: 09/07/94
SUBMISSION: S472853 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: EMERGENCY EXEMP ACTION: 513 SEC18-OLD F/F USE AMND
RANKING : 75 POINTS (A)
CHEMICALS: 108501 Pendimethalin (ANSI) %

ID#: 94OR0022
COMPANY:
PRODUCT MANAGER: 41 REBECCA COOL 703-308-8417 ROOM: CS1
PM TEAM REVIEWER: SUSAN STANTON 703-308-8327 ROOM: CS1
RECEIVED DATE: 09/06/94 DUE OUT DATE: 10/26/94

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 207231 EXPEDITE: N DATE SENT: 09/07/94 DATE RET.: / /
CHEMICAL: 108501 Pendimethalin (ANSI)
DP TYPE: 001 Submission Related Data Package
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 09/27/94
DIV : EFED	09/13/94	/ /	NEGOT DATE: / /
BRAN: EEB	09/19/94	/ /	PROJ DATE: / /
SECT:	/ /	/ /	
REVR :	/ /	/ /	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

On Sept. 7, EPA held a conference call with the Oregon Dept. of Agriculture concerning EEB's review of the state's sec. 18 request for pendimethalin on grass grown for seed (94-OR-22). EPA agreed to reconsider its finding that the Aleutian Canada goose could be adversely affected by this use. In support of reconsideration, OR has submitted IR-4 residue field trial data which includes 0-day residue data on grasses. HED's residue chemistry branch is reviewing the data to determine its validity and provide residue estimates to EEB. They have been instructed to contact Norm Cook or Al Vaughan directly for clarification about what is needed in their review. Please use the information provided by HED to re-evaluate the risk to the Aleutian Canada goose when it becomes available. The due date for your review can be negotiated once you have what you need. If you have any questions, please call me.

Thanks,
Susan Stanton

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

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DP BARCODE: D207233

CASE: 285727 DATA PACKAGE RECORD (CONTINUED) DATE: 09/07/94
SUBMISSION: S472853 BEAN SHEET Page 2 of 1

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
207233	TSCB	09/07/94	09/27/94	Y	N	N

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

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

SEP 20 1994

MEMORANDUM

SUBJECT: Emergency Exemption for use of Pendimethalin on Seed Grass in Oregon: Submission of IR-4 Crop Residue Data (D207231)

FROM: for Anthony F. Maciorowski, Chief
Ecological Effects Branch
Environmental Fate and Effects Division (7507C) 9/20/94

TO: Rebecca Cool, PMT-41
Registration Support Branch
Registration Division (7505C)

The State of Oregon recently submitted IR-4 crop residue data to support a proposed Section 18 for the use of pendimethalin on seed grasses. The residue levels predicted using the Kenaga nomogram indicated hazard to the Aleutian Canada goose. The IR-4 data were submitted to show that actual residues in/on seed grasses would be below the level of concern for the goose.

As noted in the attached memo, the Agency has determined that the submitted residue data do not demonstrate that pendimethalin residues in grass would be below the level of concern.

Questions or comments on this memo should be directed to Allen Vaughan (305-6464).

Attachments

M I V ...

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

SEP 15 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

SECTION 18 EXEMPTION FOR USE OF **Pendimethalin** ON **Grass Grown For Seed**

To: Susan Stanton, PM Team 41 (7505C)
From: George F. Kramer, Ph.D., CBTS (7509C)
Thru: Richard A. Loranger, Ph.D., CBTS (7509C) R. Loranger

ID#: 94OR0022
DP Barcode: D207233
CBTS#: 14325
Chemical: Pendimethalin
EPA Approved Common Name: Pendimethalin
Chemical Name: N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine
Formulation Trade Name: Prowl 3.3EC Herbicide
Registration#: 241-337
Class: Herbicide
State or Agency applying for exemption: OR
Type of exemption: Specific
Reason: To control weedy grasses in 192,510 acres.

CBTS has previously recommended in favor of this Section 18 for use of pendimethalin on grass grown for seed in OR (Memo, G. Kramer 6/3/94). EEB used the Kenaga model to estimate that the 0 day PHI pendimethalin residue on grass would be in excess of 700 ppm, which exceeds the level of toxicological concern (419 ppm) for the endangered species, the Aleutian Canada goose. A condition of EPA approval for this Section 18 was ensuring that this species not be exposed to pendimethalin. The state of OR has responded that the Aleutian Canada goose arrives in certain counties prior to the planned time of pendimethalin application, thus precluding its use in these counties. The state has requested that the Agency consider data developed by IR-4 which shows that pendimethalin residues in grass at 0 day PHI do not actually exceed 273 ppm. EEB has asked CBTS to comment on the adequacy of this data.

The metabolism of pendimethalin in/on grass is adequately understood for the purposes of this emergency exemption only. The residues of concern are the combined residues of pendimethalin [N-

(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine] and its metabolite 4-[(1-ethylpropyl)amino]-2-methyl-3,5-dinitrobenzyl alcohol (CL202.347).

CONCLUSIONS/RECOMMENDATIONS

Due to uncertainties resulting from a lack of validation data in the range of the observed residue values and the limited number of residue trials, CBTS concludes that the submitted data do not demonstrate that pendimethalin residues in grass would be less than 419 ppm.

Detailed Considerations

The state of OR has submitted data from four grass residue trials conducted in OR. The varieties utilized were bluegrass, tall fescue, perennial ryegrass and fine fescue. Prowl 3.3EC was applied at a rate of 3.0 lbs. ai/A (1X) and 6.0 lbs. ai/A (2X). Fresh grass (forage) was harvested 0, 7, 14, 45 and 60 days after application. Samples were analyzed using American Cyanamid Method M1930.01. The method was validated in forage at levels of 0.05-10 ppm. For pendimethalin, the average recoveries were 102 ± 16% (n=6) at 0.10 ppm and 71 ± 11% (n=5) at 10 ppm. For CL202.347, the average recoveries were 109 ± 8% (n=6) at 0.10 ppm and 98 ± 8% (n=5) at 10 ppm. Analysis of the field forage samples showed that the highest pendimethalin residues observed were 273 ppm at 1X and 1211 at 2X (Table 1).

Table 1- Residues in fresh grass harvested at 0 day PHI after pendimethalin application at a rate of 3.0 lbs. ai/A (1X) and 6.0 lbs. ai/A (2X).

Trial #	Application Rate	Residues (ppm)		
		Pendimethalin	CL202.347	Total
1	1X	166	0.6	167
	2X	299	0.6	300
2	1X	225	0.7	226
	2X	1211	0.7	1212
3	1X	243	0.4	243
	2X	454	0.6	455
4	1X	273	0.5	274
	2X	440	0.5	440

CBTS' Conclusions: The apparent pendimethalin residues in 0 day PHI forage ranged from 166-273 ppm. However, these values can not be considered to be reliable since the analytical method was not validated in this range. In fact, the procedural recovery at the highest validated value, 10 ppm, was significantly lower than at 0.10 ppm (71 vs. 102%). It is thus quite possible that the procedural recovery in the range of 150-300 ppm would be worse than 71%. If the maximum forage pendimethalin residue of 273 ppm is corrected for a recovery of 71%, then the actual residue would be 385 ppm. If the actual procedural recovery was 65%, then the real pendimethalin residue would be 420 ppm, which is in excess of the level of toxicological concern for the endangered species in question. CBTS is also concerned about the maximum residue observed at 2X (1211 ppm). If this values is corrected for a 71% recovery, then the resulting value (1706 ppm) is very close to that predicted by the Kenaga model (≈1500 ppm). CBTS thus questions whether the results of only four trials are sufficient to disprove the Kenaga model as applied to pendimethalin. Due to uncertainties resulting from a lack of validation data in the range of the observed residue values and the limited number of residue trials, CBTS concludes that the submitted data do <u>not</u> demonstrate that pendimethalin residues in grass would be less than 419 ppm.

cc: Section 18 File, Kramer, circ., R.F., N. Cook/A. Vaughan (EEB)
RDI: J. Garbus for P.V. Errico (9/13/94), M.T. Flood (9/14/94), R.A. Loranger (9/14/94)
G.F. Kramer:804V:CM#2:(703)305-5079:7509C

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