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

JAN 6 1993

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

Subject: EPA Reg.# 241-243. Response of 4/3/92 to Memo of K. Dockter Dated 9/18/91 Addressing the Request to Add Layby Use on Cotton to the Prowl®4E (Pendimethalin) Label.
MRID# 422663-01 through 422663-07.
DP Barcode# D178174.
CBTS# 9863.

From: G. Jeffrey Herndon, Chemist
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Through: Elizabeth T. Haeberer, Section Head
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To: Vicky Walters/Robert Taylor, PM Team 25
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In response to an Agency letter dated 10/8/91, American Cyanamid Company has provided additional data addressing questions raised about the adequacy of the available storage stability data in support of the registrant's request for a label amendment. This action was previously evaluated by CBRS in memos from K. Dockter dated 7/3/89 and 9/18/91.

The registrant is requesting an amended registration for postemergence use of the herbicide pendimethalin on cotton. The current label allows up to 1.5 lbs.ai/A. to be used preplant only; the label clearly states "DO NOT APPLY PROWL® AS A POSTEMERGENCE SPRAY IN COTTON". The proposed label would allow, in Arizona and Southern California only, the additional use of 0.5 lb.ai./A. in 10 to 40 gpa. in previously pendimethalin-treated cotton. Protective shields are to be used to prevent spray contact with cotton foliage and stems.

A tolerance has been established for the combined residues of pendimethalin [N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine] and its metabolite 4-[(1-ethylpropyl)amino]-2-



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Printed with Soy/Canola Ink on paper that
contains at least 50% recycled fiber

methyl-3,5-dinitrobenzyl alcohol in or on cottonseed at 0.1 ppm (40 CFR 180.361).

Data were previously reviewed from a magnitude of the residue study reflecting application of Prowl® 4EC at the rate of 1.5 (and also 3.0) lb.ai./A. at planting and again, at the same rates, as a directed post application to the ground below the cotton at layby, 60 days prior to harvest. Samples of cotton bolls were collected, ginned, and stored frozen for 12 months prior to analysis. At a method sensitivity of 0.05 ppm, residues were reported as non-detectable in all samples (see memo of K. Dockter dated 9/18/91, MRID# 418812-01).

In the current submission, the registrant has provided one volume summarizing previously submitted storage stability studies for pendimethalin and its metabolite on various commodities (almond kernels, potato, soybean plant, soybean seed, tobacco leaf, and wheat straw), as well as 6 volumes of previously submitted method validation data for cottonseed, onion bulbs, grapes and raisins, soybean seeds, tobacco, and wheat straw.

Conclusions and Recommendations

In examining the available storage stability data on the two commodities most similar to cottonseed (almond kernels and soybean seed both contain a large percentage of oil), CBTS found that levels of pendimethalin (CL 92,553) in soybean seed were roughly half of the starting concentration after only 12 months of storage, as shown in Table 1.

Table 1

Recoveries of Added CL 92,553 in Soybean Seed After Freezer Storage

Fortification (ppm)	Nominal Interval (months)					
	0	1	3	6	12	18
0.1	109%	88%	96%	85%	49%	53%
1.0	93%	97%	80%	71%	48%	53%

In order to judge the adequacy of the present tolerance level of 0.1 ppm of pendimethalin on cottonseed in light of the proposed additional layby use and observed losses of the chemical over time in soybeans, CBTS is requesting that the registrant submit the following chromatograms from MRID# 418812-01 titled "Prowl® Herbicide (AC 92,553/4EC): Residues of CL 92,553 and CL 202,347 in Cotton":

Study: PR89CA07 (Westmorland, CA)

Chromatograph Run Numbers			
Analyte	Sample (1113)	Spike (0101)	Blank (0101)
CL 92,553	#4913, #4914	#4909, #4910	#4907, #4908
CL 202,347	#4901, #4902	#4897, #4898	#4895, #4896

Study: PR89CA08 (Kerman, CA)

Chromatograph Run Numbers			
Analyte	Sample (1113)	Spike (0101)	Blank (0101)
CL 92,553	#4947, #4948	#4943, #4944	#4941, #4942
CL 202,347	#4935, #4936	#4931, #4932	#4929, #4930

Study: PR89AZ02 (Yuma, AZ)

Chromatograph Run Numbers			
Analyte	Sample (1113)	Spike (0101)	Blank (0101)
CL 92,553	#4889, #4890	#4885, #4886	#4883, #4884
CL 202,347	#4877, #4878	#4873, #4874	#4871, #4872

In addition, the registrant is asked to submit the chromatograms of the standards that were analyzed with these samples. These standard, sample, blank, and spike chromatograms will be used to judge the approximate sample residue levels that fall between the method quantitation and detection limits. This should allow a determination of whether total residues in treated samples could exceed the established tolerance after correcting for possible loss in storage. The registrant is asked to explain how the 0.003 ppm detection limit was determined. The registrant will also need to specify if the data from the three studies listed above was generated using the shields that are specified in the proposed label.

cc: RF, Pendimethalin Amended Use and Reg.Std. files, circu.,
PP# 5F1556, G.J. Herndon, E. Haeberer (section head).

RDI: Section Head: E. Haeberer: 12/31/92,
Branch Senior Scientist: R. A. Loranger: 1/6/93.

H7509C: CBTS: G. Herndon: 305-5079: CM#2: Rm 804T: 12/31/92.