

US EPA ARCHIVE DOCUMENT

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Central File

EEE BRANCH REVIEW

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DATE: IN _____ OUT _____ IN _____ OUT _____ IN 9-19-78 OUT 9-21-78

FISH & WILDLIFE

ENVIRONMENTAL CHEMISTRY

EFFICACY

FILE OR (REG. NO(S)) 241-243

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED 8-25-78

DATE OF SUBMISSION 8-24-78

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCT(S): I, D, (H), F, N, R, S Herbicide

DATE ACCESSION NO(S). 234830, 234831

PRODUCT MGR. NO(S). 25 Bob Taylor

PRODUCT NAME(S) Prowl herbicide

COMPANY NAME American Cyanamid

SUBMISSION PURPOSE Add Prowl + fluid fertilizer and Prowl PPI - Karmex Pre-sequential uses on cotton.

CHEMICAL & FORMULATION pendimethalin (N-(1-ethylpropyl)-3,4-dimethyl--2,6-dinitro benzenamine) - (43.8%)

(4#ai/gallon)

200.0 Introduction:

200.1 Uses:

Refer to attached use sheets.

200.2 Background information:

Prowl 4E herbicide is presently registered for preplant incorporated (PPI) use in cotton for control of certain broadleaf and grass weeds. Karmex 80WP herbicide is presently registered (Reg. No.:352-247) for preplant, preemergence (Pre), early postemergence and/or lay-by treatments in cotton up to maximum designated rates dependent on soil texture. American Cyanamid is now proposing use of Prowl applied PPI followed by Karmex applied preemergence for weed control in cotton.

American Cyanamid is also amending their present Prowl PPI use directions on cotton to include use of 20 or more gallons fluid fertilizer in place of water as diluent.

201.0 Data summary:

201.1.1 Brief description of data submitted:

Efficacy, crop injury and compatibility data were submitted to support Prowl plus fluid fertilizer. Excellent control of the label-claimed weed species was noted. No injury was noted from use of Prowl plus 8-16-0, 14-8-8, 38-30-0, 12.8-12.8-0, 10-34-0, 16-20-0-5S, 32-0-0, 18-12-2-5S, and 10-5-10 on the following cotton varieties: Delta Pine SR-1, Blightmaster A-5, Stoneville 213, Stripper 31, Dunn 119, Lankart 57, GSA-71, or Paymaster 266. In the lab, the equivalent of 2#ai Prowl + 300# 3-10-37, 10-34-0, and 3-27-5 were evaluated for compatibility. No incompatibilities were noted after 30 minutes when Prowl + 3-10-27 were combined. Oil separation was noted after 30 minutes from the Prowl + 10-34-0 and 3-27-5 combinations; however, a homogenous mixture was maintained with constant agitation. The Prowl label presently recommends constant agitation throughout the tank filling and spraying operations and also provides directions for a grower compatibility jar test. Prowl was compared with Treflan for compatibility and found to be comparable.

Efficacy, crop injury and yield data were submitted in support of the proposed Prowl PPI - Karmex Pre sequential use in cotton. Improved control of pigweed, crabgrass, barnyard+grass and lambsquarters was noted over use of Prowl PPI or Karmex Pre alone. The maximum proposed Prowl PPI - Karmex Pre rates were not phytotoxic to cotton. No yield reductions were noted. No phytotoxicity or yield data were submitted to support additional early postemergence and/or lay-by Karmex treatments as recommended on the presently registered Karmex label; to be applied following the proposed Prowl PPI - Karmex Pre sequential.

201.1.2 Data summaries:

Refer to F.H.B. files for data summaries. Refer to accession Nos. :234830 and 234831 for additional raw data.

202.0 Conclusions:

202.1 Claims supported by the data submitted:

- a) Efficacy, crop injury and compatibility data submitted will support use of Prowl plus fluid fertilizer applied PPI on cotton in 20 or more gallons of fluid fertilizer per acre. The presently accepted Prowl label "General Information" section provides adequate jar test and agitation directions.
- b) No antagonistic effects on weed control were noted from use of the proposed Prowl PPI - Karmex Pre sequential rates. Improved control of crabgrass, barnyard+grass, lambsquarters and redroot pigweed was noted from use of the proposed sequential over use of Prowl PPI alone or Karmex Pre alone at comparable #ai/A.
- c) Crop injury and yield data submitted will support use of the maximum proposed Prowl PPI - Karmex Pre sequential rates.

202.2 Claims not supported by the data submitted:

The Karmex 80WP label (Reg. No.:352-247) presently allows use of early postemergence and/or layby treatments following a preemergence Karmex treatment. No crop injury or yield data ^{were} ~~was~~ submitted to support use of early postemergence and/or layby Karmex treatments following the proposed Prowl PPI - Karmex Pre sequential.

203.0 Additional data required to support claims and achieve registration:

Submit crop injury and yield data to support use of early postemergence and/or layby Karmex treatments following use of the Prowl PPI - Karmex Pre sequential at the maximum recommended rates. Otherwise, the label must prohibit use of early postemergence and/or layby Karmex treatments following use of the proposed Prowl PPI - Karmex Pre sequential.

204.0 Label Comment - to be resolved prior to registration:

On the Prowl PPI - Karmex Pre information bulletin, revise the sentence "When applied as directed, in addition ... certain broadleaf weeds." to read: When applied as directed, the Prowl preplant incorporated - Karmex preemergence overlay treatments will control those weeds listed on the Prowl preplant incorporated cotton label plus certain broadleaf weeds listed on the Karmex preemergence label (as dependent on recommended rate and soil texture) and will also provide improved control of crabgrass spp., barnyardgrass, lambsquarters, and redroot pigweed over use of Prowl PPI alone or Karmex Pre alone. Refer to the Prowl leaflet and Karmex label for specific weeds controlled by each herbicide.

Comment:

The proposed Prowl plus fluid fertilizer label amendment on cotton is acceptable. Comments under 203.0 and 204.0 must be resolved prior to registration of the Prowl PPI - Karmex Pre sequential treatments.

Richard C. Petrie
 Richard C. Petrie
 Room 315-B
 F.H.B.

FORMULATION: * Pendimethalin (N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitro benzenamine) - 43.8%

USE	TOLERANCE	RATE	APPLICATION	LIMITATIONS & REMARKS
"Cotton"	ppm	Actual lbs/acre	Formulation Amendments to Reg. No.: 241-243	
Prowl-Karmex Sequen-	0.5-0.75	1-1.5pts/A	Add: Prowl applied PPI in	
tial will control	0.75-1.0	coarse soils	20 or more gallons liquid fer-	
those weeds on Prowl	0.75-1.5	1.5-2.0 pts/A	tillizer per acre. Refer to	
label applied PPI		medium soils	leaflet for specific direc-	
plus certain broad-		1.5-3.0 pts/A	tions on liquid fertilizer	
leaves on the Karmex		fine soils	compatibility determinations	
label. Refer to			and the mixing and application	
Prowl leaflet for			of Prowl.	
specific weeds con-		Pre Karmex	Added: Prowl-Karmex Sequen-	Observe all precau-
trolled by each		Rates: -U.S.	tial. Prowl applied PPI may	tionary statements on
herbicide.		except Ariz.	be followed by an overlay pre-	Prowl label in the
	0.60	& Calif. 2/3	emergence Karmex application.	leaflet before using.
	0.80	A-LS	Refer to Prowl leaflet for	
		1.0#/A-LS, L	specific rates, mixing, spray-	
	1.00	StL, S:	ing and application direc-	
		1.25#/A-SCL,	tions. Refer to Karmex label	
* Prowl Herbicide	1.60	CL, SiCL, SC	for specific Karmex alone, pre-	
American Cyanamid		2.0#/A-SiC, C	emergence rates, mixing,	
Co. (4#/gallon)			spraying and application	
Karmex=80%WP			directions.	