US EPA ARCHIVE DOCUMENT

108801
SHAUGHNESSEY NO.

REVIEW NO.

EEB BRANCH REVIEW

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PETITION OR EXP. PERMIT NO.

DATE OF SUBMISSION 3/31/81

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ID ACTION CODE/TYPE OF REVIEW 335/Amendment --Food Use

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

DATA ACCESSION NO(S).

PRODUCT MANAGER NO. R. Mountfort (23)

PRODUCT NAME(S) Dual 8E

COMPANY NAME CIBA-GEIGY

SUBMISSION PURPOSE Proposed conditional registration of seed and pod vegetables

SHAUGHNESSEY NO.	CHEMICAL, & FORMULATION	% A.I.
108801	Metolachlor (2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-Methoxy-1-methylethyl) acetamide)	86.4%

DUAL 8E

100. Pesticide Label Information

100.1 Pesticide Use

Dual 8E is a selective herbicide for control of weeds in pod crops. Pod crops include garbanzo, great northern beans, guar, kidney beans, lima beans, mung beans, navy beans, okra, peas (English and Northern peas such as blackeye, pinkeye, crowder, etc.) pinto beans, and snap beans (green, wax, string).

100.2 Formulation Information

Dual 8E is 86.4% metolachlor

100.3 Application Methods, Direction, and Rates

Apply Dual 8E either preplant incorporated or preemergence using the appropriate rate specified in Table I. Preplant Incorporated: Apply Dual 8E to the soil and incorporate (shallow; not more than 2 inches) within 14 days before planting. Use a finishing disk, harrow, rolling cultivator, or similar implement capable of uniform incorporation. Use an incorporated application if furrow irrigation is used or when a period of dry weather is expected. If these crops are planted on beds, apply and incorporate Dual 8E after bed formation. Preemergence: Apply Dual 8E during planting (behind the planter) or after planting, but before weeds or corp emerge.

Table I: Dual 8E Alone - Pod Crops*

	Broadcast rate per acre	
Soil texture	Less than 3% organic matter	3% organic matter or greater
COARSE: Sand, loamy sand, sandy loam	1 1/2-2 pts.	2 pts.
MEDIUM: Loam, silt loam, silt	2-2 1/2 pts.	2-2 1/2 pts.
FINE: Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2-2 1/2 pts.	2 1/2-3 pts.
muck or peat soils	DO NOT USE	

*On English peas, use only preemergence application.

Within the rate range, use the lower rate on soil relatively coarse-textured or low in organic matter; use the higher rate on soil relatively fine-textured or high in organic matter.

Dry weather following preemergence application of Dual 8E may reduce effectiveness. Cultivate if weeds develop.

Rotational Crops: 1) If treated crop is lost, corn, soybeans, peanuts, Concep treated grain sorghum, or the listed pod crops may be planted immediately. Do not make a second broadcast application of Dual 8E. If the original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied. 2) Small grains may be planted 4 1/2 months following treatment. Field corn, cotton, soybeans, sorghum, peanuts, pod crops, root crops, and small grains may be planted 4 1/2 months following treatment. Field corn, cotton, soybeans, sorghum, peanuts, pod crops, root crops, and small grains may be planted the spring following treatment. Do not graze or feed forage or fodder from cotton or small grains to livestock. All other rotational crops may be planted 18 months after application.

Dual 8E + Eptam® Combination Tank Mix and Sequential Application - Beans (Green or Dry)

This mixture controls all weeds controlled by Dual 8E alone and by Eptam alone. Refer to the Dual 8E alone section of this label for weeds controlled by Dual 8E alone and to the Eptam label for weeds controlled by Eptam.

Apply Dual 8E and Eptam preplant incorporated or sequentially using the appropriate rates from Table 2. Preplant Incorporated: Apply the tank mixture to the soil and immediately incorporate into the top 2 inches of soil within 14 days before planting using a finishing disk, harrow, rolling cultivator, or similar implement capable of providing uniform 2 inch incorporation. Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. If these pod crops are planted on beds, apply and incorporate the tank mixture after bed formation. Sequential: Apply Eptam alone Preplant Incorporated, as specified on that label. Follow with a preemergence application of Dual during planting (behind the planter) or after planting before the weeds or crop emerge.

Refer to the Dual 8E and Eptam labels for weather, cultural practices, and all other precautions and limitations that affect performance of these products.

Table 2: Dual 8E + Eptam - Beans (Green or Dry)

	Broadcast rates per acre			
	Less than 3% organic matter		3% organic matter or greater	
Soil texture	Dual 8E	Eptam 7-E*	Dual 8E	Eptam 7-E*
COARSE: Sand, loamy sand, sandy loam	1 1/4 pts.	3 1/2-4 1/2 pts.	1 1/2 pts.	3 1/2-4 1/2 pts.
MEDIUM: Loam, silt loam, silt	1 1/2 pts.	3 1/2-4 1/2 pts.	2 pts.	3 1/2-4 1/2 pts.
FINE: Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2 pts.	3 1/2-4 1/2 pts.	2-2 1/2 pts.	3 1/2-4 1/2 pts.
muck or peat soils	DO NOT USE			

*Refer to the Eptam label for rate limits depending on geographic area.

Refer to the Eptam label for species and varietal restrictions.

Rotational Crops: Refer to the crop rotation instructions for Dual 8E alone on this label.

Dual 8E + Premerge® Combination and Sequential Application - Beans (Field, Lima and Snap)

This mixture controls all weeds controlled by Dual 8E alone and by Premerge alone. Refer to the Dual 8E alone section of this label for weeds controlled by Dual 8E alone, and to the Premerge label for weeds controlled by Premerge.

Apply Dual and Premerge using the appropriate rates from Table 3. Preemergence: Apply the tank mixture during planting (behind the planter) or after planting, but before weeds or crop emerge; or application may be delayed until just before or during early emergence when beans are in, but not beyond the "crook" stage. Sequential: Using the rates in Table 3, apply Dual 8E preplant incorporated as specified in the Dual alone section. Follow with a preemergence or at emergence as specified alone followed by an at emergence application of Premerge.

Refer to the Dual 8E and Premerge labels for weather, cultural practices, and all other precautions and limitations that affect performance of these products.

Table 3: Dual 8E + Premerge - Beans (Field, Lima and Snap)

	Broadcast rate per acre			
	Less than 3% organic matter		3% organic matter or greater	
Soil texture	Dual 8E	Premerge*	Dual 8E	Premerge*
COARSE: Sand, loamy sand, sand loam	1 1/4 pts	1-1 1/2 gals.	1 1/2 pts.	1-1 1/2 gals.
MEDIUM: Loam, silt loam, silt	1 1/2 pts.	1-1 1/2 gals.	2 pts.	1-1 1/2 gals.
FINE: Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2 pts.	1-1 1/2 gals.	2-2 1/2 pts.	1-1 1/2 gals.
muck or peat soils	DO NOT USE			

*In the Premerge rate range, use the high rate for preemergence application and the low rate for the at emergence application.

Precaution: Do not use on light sandy soils having little or no organic matter.

Rotational Crops: Refer to the crop rotation instructions for Dual 8E alone on this label.

NOTE: DO not graze or feed forage or fodder from pod crops treated with Dual, Dual + Eptam, or Dual + Premerge to livestock.

100.4 Target Organisms

Weeds Controlled

barnyard grass (water grass)
crabgrass
fall panicum
foxtail millet
giant foxtail
goosegrass
green foxtail
prairie cupgrass
red rice
signalgrass (Brachiaria)
southwestern cupgrass
witchgrass
yellow foxtail
yellow nut sedge
carpetweed
Florida pusley
pigweed

Weeds Partially Controlled

common purslane
sandbur
seedling johnson grass
volunteer sorghum

100.5 Precautionary Labeling
No environmental precautionary labeling was included.

101. Physical and Chemical Properties

See reviews by N. Cook 1/24/76, and R. Balcomb 2/13/78.

102. Behavior in the Environment
See reviews by N. Cook 1/24/76, R. Balcomb 2/13/78, and R. Farringer 9/19/80.

103. Toxicological Properties

See reviews by R. Balcomb 2/13/78, R. Farringer 9/19/80, and the Metolachlor Pesticide Registration Standard of September 1980.

The following table is a summary of the fish and wildlife studies referenced by the applicant.

Species	Results	Category	Date
Bobwhite quail	LC50 > 10,000 ppm	core	1974
Mallard duck	LC50 > 10,000 ppm	core	1974
Mallard duck	LD50 > 4640 mg/kg	supplemental	1976
Bluegill sunfish	LC50 10 ppm	core	1978
Rainbow Trout	LC50 3.9 ppm	core	1978
Daphnia magna	LC50 25.1 ppm	core	1976
Bobwhite quail (see review by R. Farringer 9/19/80)	significantly reduced survival of chicks to 17 days at 10 ppm	core	1978
Mallard duck (see review by R. Farringer 9/19/80)	significantly reduced survival of chicks to 17 day at 10 ppm	core	1978
Fathead minnow see review by R. Farringer 9/19/80)	MATC = 0.78 to 1.6 ppm	core	1978

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104.1 Discussion

See Metolachlor Pesticide Registration Standard September 1980, and reviews by R. Farringer 9/19/80 and R. Balcomb 2/13/78.

The increase in area exposed to metolachlor is mimimal compared to the area exposed because of its existing registration. The new use, beans and peas, would add about 2,000,000 acres. It is now registered for field corn, soybeans, peanuts, sorghum and railroad rights-of-way. Therefore, there would not be a significant increase in hazards to non-target organisms.

107 Conclusion

107.3 Environmental Hazards Labeling

Do not contaminate water by cleaning of equipment or disposal of waste.

107.5 Data Requests

The avian acute oral toxicity test is still required.

107.7 Recommendations

Ecological Effects Branch does not object to the conditional registration of metolachlor on beans and peas.

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