

108801
Shaughnessey No
(& 029906)

EEB BRANCH REVIEW

DATE: IN 9-26-80 OUT 10/27/80

FILE OR REG. NO. 100-597

PETITION OR EXP. PERMIT NO. OF2416-Sunflowers; OF2417-Flax

DATE DIV. RECEIVED 9-25-80

DATE OF SUBMISSION 9-12-80

DATE SUBMISSION ACCEPTED _____

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

DATA ACCESSION NO(S). _____

PRODUCT MGR. NO. R. Mountfort (23)

PRODUCT NAME(S) Dual 8E

COMPANY NAME CIBA-GEIGY

SUBMISSION PURPOSE Conditional Registration of

sunflower & flax uses

SHAUGHNESSEY NO. CHEMICAL, & FORMULATION % A.I.

108801

METOLACHLOR

86.4

(Tank mixture on sunflowers with chloramben, sodium salt (#029906)).

Metolachlor
(Dual 8E^(R))

100 Pesticide Label Information

100.1 Pesticide Use

Selective pre-plant/preemergence herbicide on sunflowers and flax.

100.2 Formulation Information

Metolachlor.....	86.4%
INERTS	13.6%
	100.0%

(8 lbs AI per gal)

100.3 & 4 Application Methods, Directions, Rates & Target Organisms

SUNFLOWERS

Directions for Use

General

Dual 8E is a selective herbicide recommended as a preplant incorporated or preemergence surface-applied treatment for control of most annual grasses and certain broadleaf weeds in sunflowers.

Dual 8E Applied Alone

Weeds

Controlled

barnyardgrass (watergrass) crabgrass fall panicum foxtail millet giant foxtail goosegrass green foxtail red rice signalgrass (Brachiaria) southwestern cupgrass witchgrass yellow foxtail yellow nutsedge	carpetweed Florida pusley pigweed
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Weeds

Partially Controlled

common purslane
 sandbur
 seedling johnsongrass
 volunteer sorghum

Apply Dual 8E either preplant incorporated or preemergence using the appropriate rate from Table 1. Preplant Incorporated: Apply Dual 8E to the soil and incorporate (shallow; not more than 2 inches) 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 sunflowers will be 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 crop emerge.

Table 1: Dual 8E Alone - Sunflowers

Soil texture	Broadcast rate per acre	
	Less than 3% organic matter	3% organic matter or greater

Table 1: Dual 8E Alone - Sunflowers

	Broadcast rate per acre	
COARSE: Sand, loamy sand, sandy loam	1 1/2-2 pts. (1 1/2-2 lb AI)	2 pts. (2 lb AI)
MEDIUM: Loam, silt loam, silt	2-2 1/2 pts. (2-2 1/2 lb. AI)	2-2 1/2 pts. (2-2 1/2 lb AI)
FINE: Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2-2 1/2 pts. (2-2 1/2 lb AI)	2 1/2-3 pts. (2 1/2-3 lb AI)
muck or peat soils	DO NOT USE	

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, or where difficult to control weeds are expected.

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^(R)-treated grain sorghum, or sunflowers 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, sunflowers, root crops, and small grains may be planted the spring following treatment. Do not graze or feed forage or fodder from cotton, sunflowers, or small grains to livestock. All other rotational crops may be planted 18 months after application without restriction.

Tank Mixture with Amiben

This tank mixture controls all weeds controlled by Dual 8E alone and by Amiben alone. Refer to the Dual 8E alone section of this label for weeds controlled by Dual 8E alone and to the Amiben label for weeds controlled by Amiben. Apply Dual 8E and Amiben preplant incorporated or preemergence using the appropriate rates from Table 2. Preplant Incorporated: Apply the tank mixture to the soil and incorporate into the top 2 inches of soil, just 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 sunflowers are planted on beds, apply and incorporate the tank mixture after bed formation. Preemergence: Apply the tank mixture during planting (behind the planter) or after planting before weeds or sunflowers emerge. Sequential: Apply Dual 8E alone Preplant Incorporated as specified above for this tank mixture. Follow with a preemergence application of Amiben during planting (behind the planter) or after planting before weeds or sunflowers emerge.

Refer to the Dual 8E and Amiben labels for weather and cultural practices that affect performance of these products.

Table 2: Dual 8E + Amiben - Sunflowers

	Broadcast rate per acre	
	Dual 8E	Amiben
COARSE: Sand, loamy sand, sandy loam	1 1/2 pts. 1 1/2 lb AI)	1 gal.
MEDIUM: Loam, silt loam, silt	1 1/2-2 pts. (1 1/2-2 lb AI)	1 gal.
FINE: Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2-3 pts. (2-3 lb AI)	1-1 1/2* gals.
muck or peat soils	DO NOT USE	

*Use this rate only on fine-textured high organic matter soils or where a dense stand of difficult to control broadleaf weeds, such as velvetleaf or wild mustard, are expected to occur on these soils.

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

FLAX

Directions for Use

General

Dual-8E is a selective herbicide recommended as a preplant incorporated or preemergence surface-applied treatment for control of most annual grasses and certain broadleaf weeds in flax.

Weeds Controlled		Weeds Partially Controlled
barnyardgrass	carpetweed	common purslane
(watergrass)	Florida pusley	sandbur
crabgrass	pigweed	seedling johnsongrass
fall panicum		volunteer sorghum
foxtail millet		
giant foxtail		
goosegrass		
green foxtail		
red rice		
signalgrass		
(Brachiaria)		
southwestern cupgrass		
witchgrass		
yellow foxtail		
yellow nutsedge		

Apply Dual 8E either preplant incorporated or preemergence using the appropriate rate from Table 3. Preplant Incorporated: Apply Dual 8E to the soil and incorporate (shallow; not more than 2 inches) 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 flax will be 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 crop emerge.

Table 3: Dual 8E Alone - Flax

	Broadcast rate per acre	
	Less than 3% organic matter	3% organic matter or greater
Soil texture		

Table 1: Dual 8E Alone - Flax

	Broadcast rate per acre	
COARSE: Sand, loamy sand, sandy loam	1 1/2-2 pts. (1 1/2-2 lb AI)	2 pts. (2 lb AI)
MEDIUM: Loam, silt loam, silt	2-2 1/2 pts. (2-2 1/2 lb AI)	2-2 1/2 pts. (2-2 1/2 lb AI)
FINE: Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2-2 1/2 pts. (2-2 1/2 lb AI)	2 1/2-3 pts. 2 1/2-3 lb. AI)
muck or peat soils	DO NOT USE	

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, or where difficult to control weeds are expected.

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^(R)-treated grain sorghum, or flax 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, flax, root crops, and small grains may be planted the spring following treatment. Do not graze or feed forage or fodder from small grains, cotton, or flax to livestock. All other rotational crops may be planted 18 months after application without restriction.

100.5 Precautionary Labeling

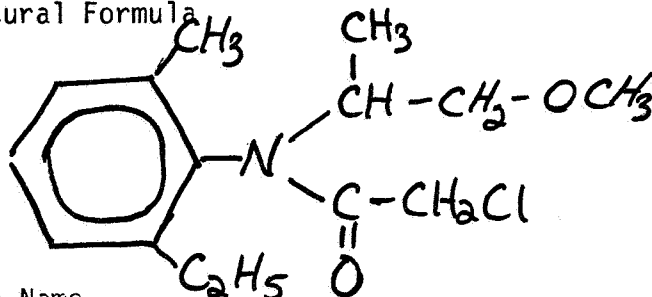
"Keep out of any body of water. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from areas treated."

101 Physical and Chemical Properties

101.1 Chemical Name

2-Chloro-N-(2-ethyl-6-methylphenyl)-N-2(2-methoxy-1-methylethyl)acetamide.

101.2 Structural Formula



101.3 Common Name

Metolachlor

101.4 Trade Name

Dual (Ontrack)

102 Behavior in the Environment

(See previous reviews by N. Cook 1/24/76, R. Balcomb 2/13/78 and R. Farringer 9/19/80.)

103 Toxicological Properties

(See previous review by R. Farringer 9/19/80, Registration Standard 6/2/80 and update 9/16/80.)

107 Conclusions

Metolachlor (as Dual^(R)) is already registered on field corn, soybeans and peanuts and has received concurrences from this branch for use on potatoes and sorghum as (Dual^(R)) and on railroad rights-of-way (as Ontrack^(R)). The proposed conditional registration on sunflowers would add only minor acreage and flax approx. 1 mill acres. Therefore, there would be no significant Incremental Risk to non-target organisms.

107.5 Data Requirements

As noted in previous reviews and in the Registration Standard on metolachlor, the avian acute oral LD₅₀ data requirement has not been satisfied.

107.6 Special Notes

The directions for the tank mixture of Dual^(R) (metolachlor) and Amiben^(R) (chloramben) on sunflowers are misleading. Chloramben is not registered on sunflowers (or on anything else for that matter),

however, the sodium salt of chloramben does have two registrations on sunflowers. The two products are 84% Amiben Microsol (#264-305) and 21% Amchem Amiben (#264-306). The directions for the tank mixture of metolachlor and chloramben apply only to the 21% Amchem Amiben, not to the 84% Amiben Microsol. The directions should be modified to correct this.

107.7 Recommendations

Ecological Effects Branch does not object to the conditional registration of metolachlor on sunflowers and flax subject to written agreement to fulfill the Data Requirement noted above (Sect. 107.5).

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