

TANDEM Herbicide
Proposed Labeling
January 13, 1986



TANDEM* Herbicide

10712
10000
4.000

ACCEPTED
FEB 10 1986
EPA Reg. No. 464-593

For Postemergence Weed Control in Field Corn

ACTIVE INGREDIENT:

Tridiphane[2-(3,5-dichlorophenyl)-2-(2,2,2-trichloroethyl)oxirane] 41.5%

INERT INGREDIENTS: 58.5%

Contains 4.0 pounds of tridiphane per gallon

EPA Registration No. 464-593

EPA Est. 464-MI-1

KEEP OUT OF REACH OF CHILDREN

DANGER

PELIGRO: PRECAUCION AL USUARIO:

Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

**MAY CAUSE IRREVERSIBLE EYE DAMAGE
MAY CAUSE ALLERGIC SKIN REACTION
HARMFUL IF SWALLOWED**

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Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling and mixing. Do not take internally. Wash thoroughly with soap and water after handling and before eating or smoking. Avoid breathing vapors or spray mists. Remove and wash contaminated clothing before reuse.

Statement of Practical Treatment

If In Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Promptly call a physician.

If On Skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

If Swallowed: Call a physician or Poison Control Center. Induce vomiting by giving two glasses of water and sticking finger down throat. Do not induce vomiting or give anything by mouth to an unconscious person.

Environmental Hazards

This product is toxic to fish. Do not apply directly to lakes, streams or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes.

Directions For Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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General Information: TANDEM Herbicide is a selective postemergence product to be applied as a tank mixture in combination with atrazine and/or Bladex® 80W Herbicide for use to control annual grasses and broadleaf weeds in field corn. Residual preemergence activity will normally occur with these combinations provided soil coverage is achieved and adequate moisture is present. Weed species susceptible to these combinations include the following:

Annual Grasses

Barnyardgrass (Echinochloa crus-galli)
Crabgrass (Digitaria spp.)
Foxtails
 Giant (Setaria faberi)
 Green (Setaria viridis)
 Yellow (Setaria lutescens)
Goosegrass (Eleusine indica)
Millet, Proso (Panicum miliaceum)
Panicum, Texas (Panicum texanum)
Signalgrass, Broadleaf (Brachiaria platphylla)
Woolly Cupgrass (Eriochloa villosa)

Annual Broadleaves

Beggarweed, Florida (Desmodium tortuosum)
Buffalobur (Solanum rostratum)
Burdock (Sicyos angulatus)
Cocklebur, Common (Xanthium pensylvanicum)
Jimsonweed (Datura stramonium)
Ladysthumb (Polygonum persicaria)
Lambsquarters, Common (Chenopodium album)
Morningglory, Tall (Ipomoea purpurea)
Mustard (Brassica spp.)
Nightshade, Black (Solanum nigrum)

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- Pigweed (Amaranthus spp.)
- Purslane, Common (Portulaca oleracea)
- Ragweed, Common (Ambrosia artemisiifolia)
- Ragweed, Giant (Ambrosia trifida)
- Sicklepod (Cassia obtusifolia)
- Smartweed, Pennsylvania (Polygonum pensylvanicum)
- Starbur, Bristly (Acanthospermum hispidum)
- Sunflower, Common (Helianthus annuus)
- Velvetleaf (Abutilon theophrasti)

Timing of Application:

Apply tank mixtures of TANDEM Herbicide plus atrazine and/or Bladex 80W as a broadcast foliar spray to young actively growing weeds. The number of leaves on grass weeds is usually the best indicator for proper timing of application. For optimum control, apply after the first flush of annual grass has emerged and is in the 1 to 3 leaf stage as shown in the diagram below. Applications made to larger grass or those not actively growing may result in reduced control. A cultivation 7 to 14 days after treatment can improve results.

Leaf Stage of Grass



2 Leaf



3 Leaf



4 Leaf

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Spray Additives:

Emulsifiable crop oil concentrate or crop oil is required as an additive to all TANDEM plus atrazine combinations to improve wetting of weed foliage. Do not use crop oil or crop oil concentrates with mixtures containing Bladex 80W.

Mixing Instructions:

1. Always use clean spray equipment to prevent contamination with other materials that may cause crop injury or clogging of nozzles or screens.
2. Fill the spray tank about one-half full with clean water.
3. With the spray tank agitation in operation, add the required amount of atrazine and/or Bladex 80W. When wettable powder formulations of these herbicides are used, premixing with water to form a slurry before adding to the spray tank will help to ensure dispersion.
4. Continue filling the spray tank with water while adding TANDEM.
5. Add emulsifiable crop oil concentrate or crop oil after TANDEM but before filling of the spray tank is completed.
6. Maintain vigorous agitation during mixing and application. If agitation is stopped and/or the spray mixture is allowed to settle, thorough remixing is required. Before spraying is resumed, check tank bottom to ensure complete remixing has occurred.
7. In hard water areas, vigorous agitation of spray mixture may cause foaming to occur. If this happens, an antifoam agent should be added to the mixture.

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Application Procedures:

Apply TANDEM as follows to ensure uniform and thorough spray coverage of weed foliage.

Ground Application - Apply using equipment which provides for uniform spray coverage. Use 20 to 30 gallons of spray volume per acre and nozzles which are operated at a pressure of 30-40 psi (at the boom). The use of flat fan nozzles provides the best coverage and distribution for the volume and pressure range needed to apply a material like TANDEM Herbicide. Use of spray nozzle tips which deliver coarse sprays is not recommended. Screens in nozzles and line strainer should be no smaller than 50 mesh. Use higher spray pressures and volumes of 25 to 30 gallons per acre when weed foliage is dense and/or weeds are larger than the 2 leaf stage.

Dosage Recommendations:

Consult the following tables and text for dosage rates to be used for various size weeds and soil textures. See specific directions for control of wild proso millet and woolly cupgrass, and for soils where atrazine carry-over is a potential problem. Read the complete Directions for Use section of this label before mixing or applying TANDEM Herbicide.

Dosage Rates for Tank Mixtures of
TANDEM Plus Atrazine

Broadcast Rate Per Acre			
Timing of Treatment - Weed Size			
Soil Texture ^(a)	Postemergence - Grasses 1 to 3 leaf		
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Crop Oil ^(c) Concentrate (pints)
Coarse, Medium or Fine - less than 4% organic matter	1	3	2
Medium or Fine - 4% to 7% organic matter	1 - 1 1/2	3-4	2

(a) Soil texture, organic matter content and rainfall following application affect the length of residual activity. Use higher rates to extend residual control. Coarse texture soils include sand, loamy sand and sandy loam. Medium includes loam, silt loam, silt and sandy clay loam. Fine includes silty clay loam, clay loam, sandy clay, silty clay and clay.

(b) Any atrazine product recommended for use on field corn may be used including wettable powder and dispersible granule formulations. If Atrazine 80W is used, add 1.9 lb (soils with less than 4% organic matter) or 1.9 to 2.5 lb (soils with 4% to 7% organic matter) of product to the spray mixture per acre. If atrazine 90% dispersible granules are used, add 1.7 lb (soils with less than 4% organic matter) or 1.7 to 2.2 lb (soils with 4% to 7% organic matter).

(c) Crop oil can be substituted for 2 pints of crop oil concentrate. Use 2 pints of crop oil on weeds with 1 to 2 leaves and 4 to 6 pints when weeds are dense and have up to 3 leaves.

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Dosage Rates for Tank Mixtures of
TANDEM Plus Bladex 80W or TANDEM Plus Atrazine and Bladex 80W

Soil Texture ^(a)	Broadcast Rate Per Acre*		
	Timing of Treatment - Weed Size		
	Postemergence - Grasses 1 - 3 leaf		
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Bladex 80W(c)(d) (pounds)
Coarse - 1 to 2% organic matter	1		1.5
Coarse, Medium or Fine - 2% to 7% organic matter	1 - 1 1/2		2.0 - 2 1/2
Coarse, Medium or Fine - 2% to 4% organic matter	1	1.5	1
Medium to Fine - 4% to 7% organic matter	1 - 1 1/2	2	1.25

***Note:** Where atrazine carryover may be of concern, such as areas where rainfall is sparse or erratic or for corn grown in highly calcareous or alkaline soils, use 1 - 1 1/2 pints of TANDEM plus 1 pint of Atrazine 4L and 1.25 lb of Bladex 80W or 1 - 1 1/2 pints of TANDEM plus 2 - 2 1/2 lb of Bladex 80W in place of other dosage rates given, regardless of soil texture.

- (a) Soil texture, organic matter content and rainfall following application affect the length of residual activity. Use higher rates to extend residual control. Coarse texture soils include sand, loamy sand and sandy loam. Medium includes loam, silt loam, silt and sandy clay loam. Fine includes silty clay loam, clay loam, sandy clay, silty clay and clay.
- (b) Any atrazine product recommended for use on field corn may be used. If Atrazine 80W is used in place of Atrazine 4L, add 0.94 lb (soils with 2% to 4% organic matter) or 1.25 lb (soils with 4% to 7% organic matter) of product to the spray mixture per acre. If atrazine 90% dispersible granules are used, add 0.83 lb (soils with 2% to 4% organic matter) or 1.1 lb (soils with 4% to 7% organic matter).
- (c) Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 80W. Do not apply mixtures that contain Bladex 80W to corn larger than the 4 true leaf stage. Do not apply TANDEM plus Bladex 80W when corn is under stress from prolonged cold or wet weather or when plants are wet from dew or recent rainfall.
- (d) Do not use Bladex 80W on sandy soil containing less than 1% organic matter.

Temporary yellowing of corn may result following application of these treatments under adverse growing conditions. However, recovery is rapid and yield is not reduced.

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Special Use Recommendations

Control of Wild Proso Millet and Woolly Cupgrass

Apply the following tank mixtures when the grass is actively growing in the 1 to 3 leaf stage and when corn is no larger than the 4 true leaf stage of development. A layby cultivation after treatment can improve results:

1.5 pints TANDEM plus 2.5 pounds

Bladex 80W; or

1.5 pints TANDEM plus 2 to 2.5 pounds

Bladex 80W and 1 pound of Atrazine 80W.

The above combinations can also be used to control a new flush of actively growing wild proso millet or woolly cupgrass following (1) preplant incorporated applications of label rates of Eradicane®, Eradicane® Extra or Sutan® or (2) preemergence applications of Lasso® or Dual®. Applications should be made when the grass is in the 1 to 3 leaf stage.

No Till/Conservation

Tillage systems that retain a large amount of surface residue need special consideration. Weed growth at planting must be controlled by a burndown herbicide program. Follow manufacturers' label recommendations for these herbicides and apply sufficient rate and spray volume to assure complete control of vegetation at planting time. Combinations with TANDEM Herbicide applied as recommended in the use tables are effective in a program to control the new flush of annual weeds that emerge after early preplant application or at-plant applications with other herbicides.

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Apply combinations with TANDEM Herbicide listed in the use rate tables after the new flush of annual grass has emerged, is actively growing and in the 1 to 3 leaf stage. At this time, broadleaf weeds may be larger and form a canopy over smaller grasses resulting in poor coverage. Apply combinations with TANDEM earlier under these conditions when good coverage of all emerged weeds can be accomplished.

Use Precautions and Restrictions

Read and carefully follow all applicable directions, restrictions and cautions on labeling for other products used in combination with TANDEM. For atrazine products, be sure to observe rotational crop suggestions to prevent possible injury to subsequent crops caused by atrazine carry-over.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Triple rinse (or equivalent). Then dispose of in a sanitary landfill, or by incineration, or, if allowed by local authorities by burning. If burned stay out of smoke.

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WARRANTY LIMITATIONS AND DISCLAIMER

The Dow Chemical Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions therein under normal conditions of use. THIS IS THE ONLY WARRANTY MADE ON THIS PRODUCT. NO OTHER EXPRESS AND NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE OUTSIDE OF THIS LABEL.

Therefore, neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), under abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes, etc.) or under conditions not reasonably foreseeable to or beyond the control of seller.

When buyer or user suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), buyer or user must promptly notify in writing The Dow Chemical Company of any claims to be eligible to receive either remedy given below. The EXCLUSIVE REMEDY OF THE BUYER OR USER and the LIMIT OF LIABILITY of The Dow Chemical Company or any other seller will be one of the following, at the election of The Dow Chemical Company:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

The seller will not be liable for consequential or incidental damages or losses.

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Bladex® trademark of Shell Oil Co.
Dual® trademark of Ciba Geigy
Eradicane® trademark of Stauffer Chemical Co.
Lasso® trademark of Monsanto Chemical Co.
Sutan® trademark of Stauffer Chemical Co.

U.S. Patent No. 4,211,549
Other Patents Pending

Contents _____ Lot _____