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Pm25
464-615



TANDEM* Herbicide

For Weed Control in field Corn

ACTIVE INGREDIENT(S):

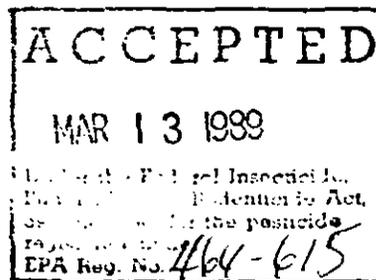
Tridiphane[2-(3,5-dichlorophenyl)-2-(2,2,2-trichloroethyl)oxirane] 43.6%

INERT INGREDIENTS: 56.4%

Contains petroleum distillates
Contains 4.0 pounds of tridiphane per gallon

EPA Registration No. 464-615

EPA Est. 464-MI-1



KEEP OUT OF REACH OF CHILDREN

WARNING

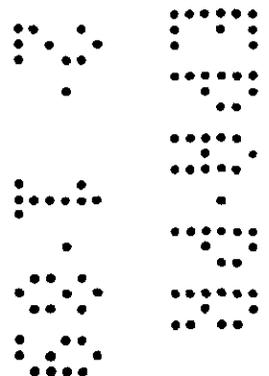
AVISO: PRECAUCION AL USUARIO:

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

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY
MAY BE FATAL IF SWALLOWED
HARMFUL IF INHALED
HARMFUL IF ABSORBED THROUGH SKIN
MAY CAUSE ALLERGIC SKIN REACTION



*Trademark of The Dow Chemical Company

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. Do not induce vomiting. Contains petroleum distillates.

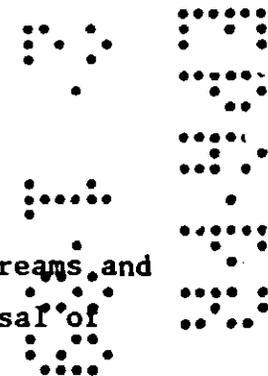
Physical or Chemical Hazards

Combustible

Do not use or store near heat or open flame.

Environmental Hazards

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



Notice

Read the entire label. Use only according to label directions.

Before buying or using this product, read "WARRANTY LIMITATIONS AND DISCLAIMER" elsewhere on this label. If terms are not acceptable, return unopened package at once to seller for full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under "WARRANTY LIMITATIONS AND DISCLAIMER."

IN CASE OF AN EMERGENCY
endangering life or property involving this product,
call collect 517-636-4400

Agricultural Chemical
Do not ship or store with food,
feeds, drugs or clothing

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DIRECTIONS FOR USE

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

POSTEMERGENCE APPLICATIONS

General Information

TANDEM herbicide is a selective postemergence herbicide to be applied as a tank mixture in combination with atrazine and/or Bladex 80W or Bladex 90DF 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 controlled by these combinations include the following:

Annual Grasses

Barnyardgrass (Echinochloa crus-galli)

Crabgrass (Digitaria spp.)

Foxtails

Giant (Setaria faberi)

Green (Setaria viridis)

Yellow (Setaria glauca)

Goosegrass (Eleusine indica)

Millet, Wild proso (Panicum miliaceum)*

Panicum, Fall (Panicum dichotomiflorum)*

Panicum, Texas (Panicum texanum)*

Sandbur, Field (Cenchrus incertus)* NE, CO and KS ONLY

Shattercane (Sorghum bicolor)* Suppression

Signalgrass, Broadleaf (Brachiaria platyphylla)

Wild Oats (Avena fatua)*

Woolly Cupgrass (Eriochloa villosa)*

*Please see special use recommendation for control of these grasses.

Annual Broadleaves

Beggarweed, Florida (Desmodium tortuosum)
Buffalobur (Solanum rostratum)
Burdock (Sicyos angulatus)
Cocklebur, Common (Xanthium strumarium)
Jimsonweed (Datura stramonium)
Kochia (Kochia scoparia)
Ladysthumb (Polygonum persicaria)
Lambsquarters, Common (Chenopodium album)
Morningglory, Tall (Ipomoea purpurea)
Mustard (Brassica spp.)
Nightshade, Black (Solanum nigrum)
Pigweed (Amaranthus spp.)
Purslane, Common (Portulaca oleracea)
Ragweed, Common (Ambrosia artemisiifolia)
Ragweed, Giant (Ambrosia trifida)
Sicklepod (Cassia obtusifolia)
Smartweed, Pale (Polygonum lapathifolium)
Smartweed, Pennsylvania (Polygonum pennsylvanicum)
Starbur, Bristly (Acanthospermum hispidum)
Sunflower, Common (Helianthus annuus)
Velvetleaf (Abutilon theophrasti)

Perennial Broadleaf

Thistle, Canada (Cirsium arvense) - Suppression

NOTE: Not effective on triazine - resistant species.

TANDEM herbicide works mainly through foliar uptake so weed control will be less than optimum when the herbicide is applied to weeds growing under drought-stressed conditions just prior to or after herbicide application. For best weed control, apply only to weeds which are actively growing.

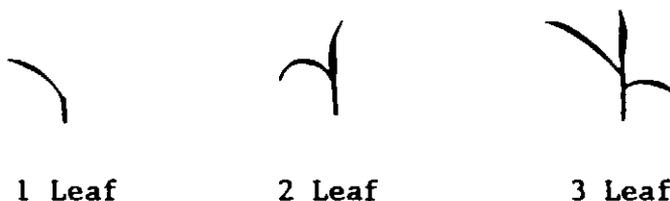
Up to approximately 10 days must elapse after herbicide application for weed control to occur. First symptoms of weed control (observed 2-3 days after application) are burning of the leaf tips and margins. The leaf surface may also appear limp and almost transparent. As the symptoms progress, the entire leaf surface will turn brown and will eventually disintegrate.

Available data indicate that rainfall two to three hours following application will not reduce activity from a postemergence application of TANDEM and triazine herbicides. Rainfall is needed after application in order to activate triazine in the soil, which in turn provides residual weed control.

Timing of Application

Apply tank mixtures of TANDEM herbicide plus atrazine and/or Bladex 80W or 90DF as a broadcast foliar spray to young actively growing weeds. The number of leaves on grass weeds is the best indicator of 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 grasses 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



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, crop oil concentrate or other spray adjuvants with mixtures containing Bladex 80W or 90DF.

Application Procedures

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

Ground Application: Use equipment which provides uniform spray coverage. Apply 20 to 30 gallons of spray volume per acre with 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.** Use only spray nozzles designed for herbicide application. Use of spray nozzle tips which deliver coarse sprays is not recommended. Do not use flood jet nozzles. 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.

Mixing Instructions (Ground):

1. Always use clean spray equipment to prevent contamination with other materials that may cause 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 or 90DF. 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 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.

High Flotation Equipment: TANDEM herbicide plus triazine tank-mixtures can be applied through high flotation application equipment (such as Big-A's, TERRIGATORS, etc.) as long as the following guidelines are followed. The guidelines are designed to maximize foliage deposition of the herbicide tank-mixtures.

1. Use 80° flat fan nozzles such as 8015.
2. Use a minimum of 30 gpa spray volume.
3. Use spray pressures of 35 to 40 psi -- measured at the boom.
4. Application speed should not exceed 10 mph.
5. Boom set-up:
 - (a) Arrange nozzles on a 30-inch spacing.
 - (b) Nozzles should have a minimum 100% overlap.
 - (c) Boom directly behind the wheels of the applicator should be adjusted to a height (maximum) of 28 to 30 inches above the ground.
 - (d) The side booms should be equipped with 80° nozzles, set at 90° or perpendicular to the ground. Portion of boom directly behind the wheels should have the nozzles set at 60° or turned back 30° to the ground.
 - (e) Vertical movement of the boom should be minimized in order to keep a minimum boom height of 42 inches above the ground (excluding the boom section directly behind the wheels of the applicator).
6. Efforts should be made to reduce the amount of dust created behind the applicator. The use of mud flaps will help reduce the amount of dust and turbulence directly behind the applicator.

Spra-Coupes: TANDEM herbicide plus triazine tank-mixtures can be applied through Spra-Coupe low volume ground application equipment as long as the following guidelines are followed. The guidelines are designed to maximize foliage deposition of the herbicide tank-mixtures.

1. Use 80° flat fan nozzles.
2. Use a minimum of 10 gpa spray volume.
3. Use minimum spray pressure of 60 psi measured at the boom.
4. Application speed of 10 mph or less.
5. Boom set-up:
 - (a) Arrange nozzles on 20 inch centers.
 - (b) Boom height should be 22 inches above the target.

Aerial Application: Apply TANDEM herbicide in combination with atrazine plus crop oil concentrate or crop oil, through fixed-wing aircraft. Apply TANDEM herbicide tank-mixtures when grass weeds are actively growing and are in the 1 to 3 leaf stage of growth. Apply at rates recommended on this label. Apply through fixed-wing aircraft which has been patterned and calibrated according to Operation Safe guidelines (contact your state Aerial Applicators Association or state Cooperative Extension Service for information on fixed-wing aircraft patterning and calibration). Apply herbicides in a minimum total spray volume of 5 gallons per acre. Use of less than 5 gallons per acre will result in poor weed control.

For maximum herbicidal activity of TANDEM herbicide, it is desired to have a particle spectrum within the spray pattern (measured within the corn canopy) with a volume median diameter of approximately 300 microns. In order to obtain the desired particle spectrum, the following nozzle orientations should be used. At low air speeds (90 to 100 mph) orient nozzles on the boom perpendicular to the ground. At fast air speeds (120 to 140 mph) orient nozzles on the boom parallel to the ground.

Mixing Instructions (Aerial):

1. Fill the spray tank about one-half full with clean water.
2. With agitation in operation, add the required amount of TANDEM herbicide plus crop oil concentrate or crop oil. Agitate tank until the TANDEM plus crop oil concentrate or crop oil are completely emulsified. A visual indication of complete emulsification will be the absence of any surface oil layer or pockets.
3. Continue filling the spray tank with water while adding the atrazine. With the wettable powder formulations, pre-mixing with water to form a slurry before adding to the spray tank will help to ensure dispersion.
4. Maintain agitation during mixing and application. If agitation is stopped and/or the spray mixture is allowed to settle, thorough re-mixing is required. Before spraying is resumed, check tank bottom to ensure complete re-mixing has occurred.
5. 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.

Restrictions: Do not apply where uniform coverage cannot be obtained or where excessive spray drift may occur. Avoid application directly to animals or humans. Flagmen or loaders should avoid inhalation, spray mist, or contact with skin and should wash thoroughly before eating and at the end of each day's operation. All other restrictions on this label should be adhered to.

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Chemigation:

General Directions: Apply this product only through center-pivot or linear move sprinkler irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Before mixing TANDEM and Atrazine herbicides in the chemigation mix tank, a tank mix compatibility test must first be conducted as outlined in the following section.

Tank Mix Compatibility Evaluation Procedure: To determine if the Atrazine 4L formulation is compatible with the TANDEM and non-emulsifiable crop oil to be used, conduct the following "jar test".

1. Add 1 cup water to a clean one-quart jar.
2. Add 1 cup Atrazine 4L formulation and shake.
3. Add 2/3 cup of non-emulsifiable crop oil and shake vigorously until atrazine, oil and water form a uniform suspension.
4. Add 1/3 cup of TANDEM and shake.

After the final mixing, determine if any signs of incompatibility are present in the mixture. Signs of incompatibility are: clabbering or curdling; precipitate which does not resuspend; or precipitate which sticks tenaciously to the glass. If any of these occur, DO NOT proceed with mixing and application. Select an alternate Atrazine 4L formulation and repeat the jar test. Once a successful jar test has been completed, that mixture can be applied through the chemigation equipment.

Specific Directions: Apply TANDEM herbicide in combination with Atrazine 4L and non-emulsifiable crop oil to water applied through center-pivot or linear move sprinkler systems. Apply when grass weeds are actively growing and are in the 1 to 3 leaf stage of growth. Apply at rates recommended on this label. Apply non-emulsifiable crop oil at the rate of 1 qt per acre. Prepare mixture with a minimum of 1 part water to 1 part atrazine. Injecting a larger volume of a more dilute slurry per hour will assure more accurate calibration of metering equipment. Maintain sufficient agitation to keep herbicide in suspension. Meter slurry into irrigation water during entire period. Apply in 1/4 to 1/2 inch of water.

Use the lower water volume if top 1 to 2 inches of soil are moist. Use higher water volume if top 2 inches of soil are dry. Inject dilute slurry into the system through a positive displacement pump.

Tank Mix Directions:

1. Thoroughly clean the injection system and tank of any fertilizer or chemical residues, and dispose of the residues according to State and Federal laws.
2. Flush the injector with soap and water.
3. Calibrate the injector system.
4. Prepare a mixture of Atrazine 4L, TANDEM, non-emulsifiable crop oil and water in a steel mix tank after determining the total amount of mixture that will be injected per hour at the desired rate and time of operation.
5. Fill the tank one-half full with water, pump the required Atrazine 4L into the steel tank, and start mechanical agitation. Then add non-emulsifiable crop oil and vigorously agitate the oil until a uniform suspension with the Atrazine 4L and water mixture occurs. The required amount of TANDEM and additional water should then be added to obtain the desired total mixture volume.

6. Continually agitate the TANDEM herbicide plus Atrazine 4L plus oil mixture.
7. Set the sprinkler system to deliver the desired inches of water per acre (1/4 to 1/2 inch recommended).
8. Start the irrigation pump and system, and let the system achieve the desired pressure and speed before starting the injector.
9. The TANDEM herbicide plus Atrazine 4L plus non-emulsifiable crop oil mixture must be injected continuously and uniformly into the irrigation water line as the system is moving. This procedure is necessary to deliver the desired rate per acre in a uniform manner.
10. When application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system. Flush for at least 15 minutes.

Precautions: The irrigation pumping plant and the chemical injection pump must be interlocked so that if the irrigation pumping plant stops, the chemical injection pump also will stop. This procedure will prevent the possibility of filling the entire irrigation pipeline with the chemical mixture from the supply tank.

A positive displacement pump is required to provide uniform injection into the water line. The injector pump must provide a greater pressure than that of the irrigation system at the point of injection.

To insure uniform mixing of the herbicide into the water line, inject the mixture into the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. It is suggested that the injection point be higher than the chemical tank to prevent siphoning.

The steel tank holding the herbicidal mixture should be large enough to allow the system to complete a revolution with one filling. It should be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injector pump.

In order to calibrate the irrigation system and injector to apply the herbicidal mixture, determine the following: 1) calculate the number of acres covered by the system, 2) the number of minutes for the system to make one revolution, 3) the number of inches of water per acre delivered by the system, 4) the number of minutes required for the injector pump to inject one gallon of herbicidal mixture, and 5) the total gallons of herbicide mixture needed to cover the desired acreage. Divide the total gallons of mixture needed to cover the irrigated area by the number of minutes to make one circle. This value equals the gallons per minute output that the injector must deliver. It is suggested that the system be calibrated at least twice before operation, and the system should be monitored during operation.

End guns must be turned off during the application.

Do not apply with liquid fertilizer.

Do not allow irrigation runoff to collect or runoff and pose a hazard to livestock, wells, or adjoining crops.

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: treatment of ESCAPES (1 to 3 leaf grasses); SALVAGE Programs (4-6 leaf grasses); soils with organic matter levels greater than 7%; wild proso millet; woolly cupgrass; wild oats; fall panicum; Texas panicum (GA, AL, and FL, only); field sandbur (NE, KS, CO only); shattercane suppression and no till/conservation tillage. Read the complete **Directions for Use** section of this label before mixing or applying tank mixtures of TANDEM herbicide plus atrazine and/or Bladex 80W or 90DF.

General Recommendations: For control of actively growing annual grasses and broadleaf weeds, follow one of the programs listed in Table 1 or Table 2. Apply after the first flush of annual grass has emerged and is in the 1 to 3 leaf stage.

TABLE 1: Dosage Rates for Tank Mixtures of TANDEM Plus Atrazine.

Soil Texture ^(a)	Broadcast Rate Per Acre		
	Timing of Treatment - Weed Size		
	----- 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 - 1.5 ^(d)	3 - 4 ^(d)	2

(a) Soil texture, organic matter content and rainfall following application affect the length of residual activity. **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. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
3	=	1.9	=	1.7
4	=	2.5	=	2.2

(c) Crop oil can be substituted for crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.

(d) Use higher rate of TANDEM when weed pressures are heavy such as set aside acres and higher rate of atrazine to extend residual control.

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TABLE 2: Dosage Rates for Tank Mixtures of TANDEM Plus Bladex 90DF or TANDEM Plus Atrazine and Bladex 90DF

Soil Texture (a)	Broadcast Rate Per Acre		
	Timing of Treatment - Weed Size		
	----- Postemergence - Grasses - 1 to 3 Leaf		
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Bladex 90DF ^{(c)(d)} (pounds)
Coarse - 1% to 2% organic matter	1		1.3
Coarse, Medium or Fine - 2% to 7% organic matter	1-1.5 ^(d)		1.8-2.2 ^(d)
Coarse, Medium or Fine - 2% to 4% organic matter	1-1.5 ^(d)	1.5	0.9-1.1 ^(d)
Medium to Fine - 4% to 8% organic matter	1-1.5 ^(d)	2	1.1

(a) Soil texture, organic matter content and rainfall following application affect the length of residual activity. **Coarse** texture includes 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. For high pH soils with potential atrazine carry-over problems, use lower rates on low organic matter, high pH soils. As organic matter increases, increase the rate of TANDEM and triazine within the guidelines of carryover concern. Adjust the levels of atrazine and Bladex to maintain a total triazine level of 1.5 lb ai/A in these soils.

(b) Any atrazine product recommended for use on field corn may be used. Use the conversion listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
1.5	=	0.94	=	0.83
2	=	1.25	=	1.1

(c) Bladex 80W may be used in place of Bladex 90DF. Use the conversion listed below to determine the proper amount.

Bladex 90DF (pounds)		Bladex 80W (pounds)
0.9	=	1.0
1.1	=	1.25
1.3	=	1.5
1.8	=	2.0
2.2	=	2.5

Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 90DF or Bladex 80W. Do not apply mixtures that contain Bladex 90DF or Bladex 80W to corn larger than the 4 true leaf stage. Temporary yellowing may result following application of these treatments, particularly if cold, adverse growing conditions occur after application. However, recovery is rapid and yield is not reduced. Do not apply TANDEM plus Bladex 90DF or Bladex 80W when corn is under stress from frost, prolonged cold or wet weather or when plants are wet from dew or recent rainfall. Extended or extreme cold and wet conditions after application may reduce stands. Do not use Bladex 90DF or Bladex 80W on sandy or loamy sand soil containing less than 1% organic matter. Do not apply TANDEM plus Bladex 90DF or Bladex 80W on inbred lines or breeding stock.

(d) Use higher rates of TANDEM and Bladex 80W or 90DF when weed pressures are heavy.

No Till/Conservation Tillage

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 applications or at-plant applications with other herbicides.

Apply combinations with TANDEM herbicide listed in the use rate tables after the new flush of annual grass has emerged, is actively growing and is 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.

Set Aside Acres

When set aside acres are planted to corn, follow the recommendations listed below when applying TANDEM tank mixtures due to high weed densities.

1. Use high rates of TANDEM and Atrazine 4L and/or Bladex 80W or Bladex 90DF listed in the dosage tables.
2. Apply in 25 to 30 gallons per acre total spray volume.
3. Use higher spray pressures.

Special Weed Control Programs:

Escapes - Control of Escaped 1-3 Leaf Grasses

Use the following programs if preplant or preemergence weed control programs have failed to control grasses and the grass is in the one to three leaf stage.

Previous Triazine Herbicide Treatments:

For control of 1-3 leaf annual grasses which break through preplant incorporated or preemergence herbicide treatments that contained triazine herbicides and were applied at label rates, follow one of the programs outlined in Table 1 or Table 2 under the "General Recommendations" section of the Dosage Recommendations. Use the rate of triazine appropriate for your soil type. For atrazine products, be sure to observe rotational crop suggestions to prevent possible injury to subsequent crops caused by atrazine carry-over. Programs which contain Bladex can not be applied to corn larger than 4 true leaf stage.

Previous Non-Triazine Herbicide Treatments:

For control of 1-3 leaf annual grasses which break through preplant incorporated or preemergence herbicide treatments which were applied at label rates, follow one of the two programs outlined in Table 3. These programs can not be applied to corn larger than 4 true leaf stage.

TABLE 3: Control of Escapes (1-3 leaf Grasses) from Previous Non-Triazine Herbicide Treatment.

Soil Texture (a)	Broadcast Rate per Acre		
	Timing of Treatment - Weed Size		
	Postemergence - Grasses (1 to 3 Leaf)		
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Bladex 90DF ^(c) (pounds)
Coarse - Greater than 2% organic matter	<u>Option #1</u>		
	1.5	-	2.2
Sandy Loam - 2% or more organic matter	<u>Option #2</u>		
	1.5	2	2.2
Medium or Fine 1% or more			

(a) Coarse texture soils include sand and loamy sand. 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. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
2		1.25		1.1

(c) Bladex 80W may be used in place of Bladex 90DF. Use the conversion listed below to determine the proper amount.

Bladex 90DF (pounds)	=	Bladex 80W (pounds)
1.8		2.0
2.2		2.5

Salvage-Treatment of Larger Grasses (4 to 6 Leaf)

Use the programs in Table 4 or Table 5 if rain or other conditions delay normal TANDEM and triazine herbicide postemergence application, or if pre-plant incorporated, or preemergence weed control programs have failed to control grasses, and the grass is in the 4 to 6 leaf stage.

Previous Triazine Herbicide Application

Grasses are in the 4 to 6 leaf stage resulting from the failure of an earlier pre-plant incorporated, preemergence or early postemergence herbicide application containing atrazine or Bladex. Cultivation 7 to 14 days after TANDEM and triazine herbicide application may increase weed control.

TABLE 4: Treatment of 4 to 6 Leaf Grasses - Previous Triazine Application

Soil Texture ^(a)	Broadcast Rate Per Acre		
	Timing of Treatment - Weed Size		
	Postemergence - Grasses 4 to 6 leaf		
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Crop Oil ^(c) Concentrate (pints)
Coarse - Medium or Fine - Up to 7% organic matter	1.5	4	2

(a) Soil texture, organic matter content and rainfall following application affect the length of residual activity. **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. Use the conversion listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
4		2.5		2.2

(c) Crop oil can be substituted for 2 pints of crop oil concentrate. Use 4 to 6 pints of crop oil.

Previous Non-Triazine Herbicide Application

Grasses are in the 4 to 6 leaf stage resulting from the failure of earlier herbicide application NOT containing atrazine or Bladex, or because no herbicide was applied at all. Cultivation 5 to 10 days after initial TANDEM and atrazine application may improve weed control and may substitute for second atrazine treatment. However, when weed pressures are heavy, initial application of TANDEM plus Atrazine 4L plus crop oil concentrate followed 5 to 10 days later with Atrazine 4L plus crop oil concentrate, will be necessary for optimum weed control.

TABLE 5: Treatment of 4 to 6 Leaf Grasses - Previous Non-Triazine Application or no Herbicide Application.

Soil Texture ^(a)	Broadcast Rate Per Acre		
	Timing of Treatment - Weed Size		
	Postemergence - Grasses		
	4 - 6 Leaf ^(b)		
	TANDEM (pints)	Atrazine 4L (pints)	Crop Oil Concentrate (pints) ^(c)
Medium - Silt and clay loams that are low in organic matter	INITIAL TREATMENT - GRASS 4 to 6 LEAF		
	1.5	2.75	2
	SECOND TREATMENT 5 TO 10 DAYS AFTER INITIAL		
	2		2
Fine - Silt and clay loams with medium to high organic matter and clays	INITIAL TREATMENT - GRASS 4 to 6 LEAF		
	1.5	4	2
	SECOND TREATMENT 5 TO 10 DAYS AFTER INITIAL		
	2		2

(a) Soil texture, organic matter content and rainfall following application affect the length of residual activity.

(b) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
2	=	1.3	=	1.1
2.75	=	1.72	=	1.53
4	=	3.75	=	3.3

(c) Crop oil can be substituted for crop oil concentrate. Use 6 to 8 pints of crop oil.

Soils with Organic Matter Levels Greater Than 7%: For control of grasses and broadleaf weeds on soil containing organic matter levels greater than 7%, use tank mixtures combining TANDEM herbicide and triazine herbicides as outlined in the three options listed in Table 6. Cultivation 7 to 14 days after TANDEM and triazine application may improve weed control.

TABLE 6: Treatment Programs for Soils with Organic Matter Levels Greater Than 7%.

Preemergence	Broadcast Rate per Acre		
	Timing of Treatment - Weed Size		
	Postemergence - Grasses (1 to 3 Leaf)		
Bladex 4L ^(a) (pints)	TANDEM (pints)	Atrazine 4L ^(b) (pints)	COC ^(c) (pints)
	<u>Option #1</u>		
-	INITIAL TREATMENT - GRASS 1 TO 3 LEAF		
	1.5	3	2
	SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL		
	-	3	2
	<u>Option #2</u>		
-	INITIAL TREATMENT - GRASS 1 TO 3 LEAF		
	0.75	3	2
	SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL		
-	0.75	3	2
	<u>Option #3</u>		
5	1.5	4	2

(a) Do not apply Bladex 4L preemergence to peat or muck soils. Do not apply Bladex 4L postemergence to corn.

(b) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
3	=	1.9	=	1.7
4	=	2.5	=	2.2

Total amount of Atrazine 4L applied should not exceed 3 lb. active ingredient per acre.

(c) Crop oil can be substituted for 2 pints of crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.

Wild Proso Millet: For control of wild proso millet, apply one of the tank mixtures listed in Table 7 when the wild proso millet is in the 1 to 3 leaf stage and corn is no larger than the 4 true leaf stage. Treatments listed below involve TANDEM and triazine herbicides applied either postemergence or split postemergence; or Bladex 4L applied preemergence followed by TANDEM and triazine applied postemergence. If the second split postemergence treatments are made when corn is beyond the 5 leaf stage, directing the spray with drop nozzles may provide better coverage and improve control. A layby cultivation following treatment may improve results.

TABLE 7. Treatment Programs for Wild Proso Millet

Soil Texture (a)	Pre-emergence Bladex 4L (b) (pints)	Broadcast Rate per Acre			
		Timing of Treatment - Weed Size			
		Postemergence - Grasses (1 to 3 Leaf)			
		TANDEM (pints)	Atrazine 4L (c) (pints)	Bladex 90DF (d) (pounds)	COC (e) (pints)
Sand or loamy sand - Greater than 2% organic matter or Sandy loam - 2% or greater organic matter or	<u>Option #1</u>				
		INITIAL TREATMENT - GRASS 1 TO 3 LEAF 1.5	-	2.2	-
		SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL	4	-	2
Medium, Fine-1% or greater organic matter	<u>Option #2</u>				
		INITIAL TREATMENT - GRASS 1 TO 3 LEAF 1.5	2	1.1	-
		SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL	4	-	2
Sand or loamy sand - 2% or greater organic matter or Sandy loam - 1% or greater organic matter or Medium or Fine-1% or greater organic matter	INITIAL TREATMENT - GRASS 1 TO 3 LEAF				
		0.75	-	1.8	-
		SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL	3	-	2

TABLE 7. Treatment Programs for Wild Proso Millet - Continued

Soil Texture ^(a)	Pre-emergence Bladex 4L ^(b) (pints)	Broadcast Rate per Acre			
		Timing of Treatment - Weed Size			
		Postemergence - Grasses (1 to 3 Leaf)			
		TANDEM (pints)	Atrazine 4L ^(c) (pints)	Bladex 90DF ^(d) (pounds)	COC ^(e) (pints)
Sandy loam - greater than 2% organic matter or Medium or Fine- 2% or greater organic matter	Option #1 4-6	1.5	-	2.2	-
	Option #2 4-6	1.5	2	1.1	-

- (a) **Medium** texture soils include loam, silt loam, silt and sandy clay loam. **Fine** includes silty clay loam, clay loam, sandy clay, silty clay and clay.
- (b) See Bladex 4L label for preemergence application rates in relation to soil texture and soil organic matter content.
- (c) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pint)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
2	=	1.25	=	1.1
3	=	1.9	=	1.7
4	=	2.5	=	2.2

- (d) Bladex 80W may be used in place of Bladex 90DF. Use the conversions listed below to determine the proper amount.

Bladex 90DF (pounds)	=	Bladex 80W (pounds)
1.1	=	1.2
1.8	=	2.0
2.2	=	2.5

Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 90DF or Bladex 80W. Do not apply mixtures that contain Bladex 90DF or Bladex 80W to corn larger than the 4 true leaf stage. Temporary yellowing may result following application of these treatments, particularly if cold, adverse growing conditions occur after application. However, recovery is rapid and yield is not reduced. Do not apply TANDEM plus Bladex 90DF or Bladex 80W when corn is under stress from frost, prolonged cold or wet weather or when plants are wet from dew or recent rainfall. Extended or extreme cold and wet conditions after application may reduce stands. Do not use Bladex 90DF or Bladex 80W on sandy or loamy sand soil containing less than 1% organic matter. Do not apply TANDEM plus Bladex 90DF or Bladex 80W on inbred lines or breeding stock.

- (e) Crop oil can be substituted for 2 pints of crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.

Woolly Cupgrass: For control of woolly cupgrass, apply one of the tank mixtures listed in Table 8 when the woolly cupgrass is in the 1 to 3 leaf stage and corn is no larger than the 4 true leaf stage. Treatments listed below involve TANDEM and triazine herbicides applied either postemergence or split postemergence; or Bladex 4L applied preemergence followed by TANDEM and triazine applied postemergence. If the second split postemergence treatments are made when corn is beyond the 5 leaf stage, directing the spray with drop nozzles may provide better coverage and improve control. A layby cultivation following treatment may improve results.

TABLE 8: Treatment Programs for Woolly Cupgrass

Soil Texture (a)	Pre-emergence Bladex 4L (b) (pints)	Broadcast Rate Per Acre			
		Timing of Treatment - Weed Size			
		Postemergence - Grasses (1 to 3 Leaf)			
		TANDEM (pints)	Atrazine 4L (c) (pints)	Bladex 90DF (d) (pounds)	COC (e) (pints)
Sand or loamy sand - greater than 2% organic matter or Sandy loam - 2% or greater organic matter or Medium, Fine - 1% or greater organic matter	<u>Option #1</u>				
		INITIAL TREATMENT - GRASS 1 TO 3 LEAF			
	-	1.5	-	2.2	-
		SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL			
	-		4	-	2
	<u>Option #2</u>				
		INITIAL TREATMENT - GRASS 1 TO 3 LEAF			
	-	1.5	2	1.1	-
		SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL			
		4	-	2	
<u>Option #3</u>					
	INITIAL TREATMENT - GRASS 1 TO 3 LEAF				
-	1.5	4	-	2	
	SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL				
		2		2	
Sand or loamy sand - 2% or greater organic matter or Sandy loam - 1% or greater organic matter or Medium or Fine - 1% or greater organic matter	INITIAL TREATMENT - GRASS 1 TO 3 LEAF				
	-	0.75	-	1.8	-
		SECOND TREATMENT 7 TO 14 DAYS AFTER INITIAL			
	-	0.75	3	-	2

TABLE 8: Treatment Programs for Woolly Cupgrass - Continued

Soil Texture ^(a)	Pre-emergence Bladex 4L ^(b) (pints)	Broadcast Rate per Acre			
		Timing of Treatment - Weed Size			
		Postemergence - Grasses (1 to 3 Leaf)			
		TANDEM (pints)	Atrazine 4L ^(c) (pints)	Bladex 90DF ^(d) (pounds)	COC ^(e) (pints)
Sandy loam - greater than 2% organic matter or Medium or Fine- 2% or greater organic matter	<u>Option #1</u> 4-6	1.5	-	2.2	-
	<u>Option #2</u> 4-6	1.5	2	1.1	-
	<u>Option #3</u> 4-6	1.5	4	-	2

- (a) Medium texture soils include loam, silt loam, silt and sandy clay loam. Fine includes silty clay loam, clay loam, sandy clay, silty clay and clay.
(b) See Bladex 4L label for preemergence application rates in relation to soil texture and soil organic matter content.
(c) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pint)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
2	=	1.25	=	1.1
3	=	1.9	=	1.7
4	=	2.5	=	2.2

- (d) Bladex 80W may be used in place of Bladex 90DF. Use the conversions listed below to determine the proper amount.

Bladex 90DF (pounds)	=	Bladex 80W (pounds)
1.1	=	1.2
1.8	=	2.0
2.2	=	2.5

Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 90DF or Bladex 80W. Do not apply mixtures that contain Bladex 90DF or Bladex 80W to corn larger than the 4 true leaf stage. Temporary yellowing may result following application of these treatments, particularly if cold, adverse growing conditions occur after application. However, recovery is rapid and yield is not reduced. Do not apply TANDEM plus Bladex 90DF or Bladex 80W when corn is under stress from frost, prolonged cold or wet weather or when plants are wet from dew or recent rainfall. Extended or extreme cold and wet conditions after application may reduce stands. Do not use Bladex 90DF or Bladex 80W on sandy or loamy sand soil containing less than 1% organic matter. Do not apply TANDEM plus Bladex 90DF or Bladex 80W on inbred lines or breeding stock.

- (e) Crop oil can be substituted for 2 pints of crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.

Wild Oats

For the control of wild oats, follow the guideline listed in Table 9 when the wild oats are in the 1 to 3 leaf stage. A cultivation 7 to 14 days after the TANDEM plus Atrazine 4L plus Bladex 90DF application may improve weed control.

TABLE 9: Treatment of Wild Oats.

Soil Texture ^(a)	Broadcast Rate Per Acre		
	Timing of Treatment - Weed Size		
	Postemergence -- Grasses 1 to 3 Leaf		
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Bladex 90DF ^(c) (pounds)
Medium or Fine - 2% or greater organic matter	1	1	1.1-1.7

- (a) **Medium** texture soils include 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 0.62 lb of product to the spray mixture per acre. If atrazine 90% dispersible granules are used, add 0.56 lb of product to the spray mixture per acre.
- (c) Use higher rates of Bladex 90DF herbicide when weed pressures are heavy. Bladex 80W may be used in place of Bladex 90DF. Use the conversions listed below to determine the proper amount.

Bladex 90DF (pounds)		Bladex 80W (pounds)
1.1	=	1.2
1.7	=	1.9

Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 90DF or Bladex 80W. Do not apply mixtures that contain Bladex 90DF or Bladex 80W to corn larger than the 4 true leaf stage. Temporary yellowing may result following application of these treatments, particularly if cold, adverse growing conditions occur after application. However, recovery is rapid and yield is not reduced. Do not apply TANDEM plus Bladex 90DF or Bladex 80W when corn is under stress from frost, prolonged cold or wet weather or when plants are wet from dew or recent rainfall. Extended or extreme cold and wet conditions after application may reduce stands. Do not use Bladex 90DF or Bladex 80W on sandy or loamy sand soil containing less than 1% organic matter. Do not apply TANDEM plus Bladex 90DF or Bladex 80W on inbred lines or breeding stock.

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Fall Panicum

Following are two Tables for Fall Panicum control programs in states other than Virginia, North Carolina and South Carolina, listed in Table 10A or for the states of Virginia, North Carolina and South Carolina only listed in Table 10B. For control of Fall Panicum in states other than Virginia, North Carolina and South Carolina, follow one of the three programs outlined in Table 10A. All programs require a second application of atrazine plus COC 7-12 days after the initial treatment. A cultivation may be substituted for the second application of atrazine plus COC, 7-12 days after the initial treatment.

TABLE 10A: Treatment programs for Fall Panicum in States other than Virginia, North Carolina and South Carolina.

Soil Texture (a)	Broadcast Rate per Acre			
	Timing of Treatment - Weed Size			
	Postemergence - Grasses (1 to 3 Leaf)			
	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Bladex 90DF ^(c) (pounds)	COC ^(d) (pints)
Coarse, Medium or Fine - 2-7% organic matter	<u>Option #1</u>			
	Initial Treatment			
	1 - 1.5 ^(e)	3 - 4 ^(e)	-	2
	Second Treatment (7 - 12 days later)			
		2		2
	<u>Option #2</u>			
	Initial Treatment			
	1 - 1.5	-	1.8 - 2.2 ^(e)	-
	Second Treatment (7 - 12 days later)			
		2		2
	<u>Option #3</u>			
	Initial Treatment			
1 - 1.5	1.5 - 2	0.9 - 1.1	-	
Second Treatment (7 - 12 days later)				
	2		2	

- (a) 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. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
1.5	=	0.9	=	0.8
2	=	1.25	=	1.1
3	=	1.9	=	1.7
4	=	2.5	=	2.2

- (c) Bladex 80W may be used in place of Bladex 90DF. Use the conversions listed below to determine the proper amount.

Bladex 90DF (pounds)	=	Bladex 80W (pounds)
0.9	=	1.0
1.1	=	1.25
1.8	=	2.0
2.2	=	2.5

Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 90DF or Bladex 80W. Do not apply mixtures that contain Bladex 90DF or Bladex 80W to corn larger than the 4 true leaf stage. Temporary yellowing may result following application of these treatments, particularly if cold, adverse growing conditions occur after application. However, recovery is rapid and yield is not reduced. Do not apply TANDEM plus Bladex 90DF or Bladex 80W when corn is under stress from frost, prolonged cold or wet weather or when plants are wet from dew or recent rainfall. Extended or extreme cold and wet conditions after application may reduce stands. Do not use Bladex 90DF or Bladex 80W on sandy or loamy sand soil containing less than 1% organic matter. Do not apply TANDEM plus Bladex 90DF or Bladex 80W on inbred lines or breeding stock.

- (d) Crop oil can be substituted for 2 pints of crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.
- (e) Use high application rate of TANDEM and atrazine and/or Bladex when weed pressures are heavy.

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Fall Panicum - Virginia, North Carolina and South Carolina Only

Select one of the three treatment programs listed in Table 10B, which utilize TANDEM plus atrazine plus crop oil concentrate applied either postemergence or split postemergence; or atrazine applied preemergence followed by TANDEM plus atrazine plus crop oil concentrate applied postemergence.

TABLE 10B: Treatment Program for Fall Panicum in Virginia, North Carolina and South Carolina Only.

Broadcast Rate per Acre				
Soil Texture (a)	Timing of Treatment - Weed Size			
	Preemergence	Postemergence - Grasses 1 to 3 leaf		
	Atrazine 4L ^(b) (pints)	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Crop Oil ^(c) Concentrate (pints)
Coarse - Less than 4% organic matter	INITIAL TREATMENT - GRASS 1-3 LEAF			
		1	3	2
	SECOND TREATMENT 5-10 DAYS AFTER INITIAL			
		1	2	
Peats, muck or high organic matter	INITIAL TREATMENT - GRASS 1-3 LEAF			
		1-1.5 ^(d)	3	2
	SECOND TREATMENT 5-10 DAYS AFTER INITIAL			
		3	2	
Coarse - less than 4% organic matter	3	1	3	2

- (a) Coarse texture soils include sand, loamy sand and sandy loam.
- (b) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
1	=	0.62	=	0.56
3	=	1.9	=	1.7

- (c) Crop oil can be substituted for crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.
- (d) Use higher rates of TANDEM when weed pressures are heavy.

Texas Panicum - Georgia, Alabama, Florida Only

Texas panicum is an atrazine tolerant weed species. Season long control of Texas panicum is seldom obtained because this species is a prolific seed producer. These relatively large grass seeds may remain viable in the soil for several years and may germinate from deep in the soil. These characteristics combined with the long growing season typical of the Southeast allow multiple grass flushes to occur throughout the growing season especially during the corn dry down period in mid-summer. Select one of the three programs listed below, which involves a postemergence application of TANDEM plus Atrazine 4L plus crop oil concentrate, or a preemergence application of Bladex 4L or Atrazine 4L followed by a postemergence application of TANDEM plus Atrazine 4L plus crop oil concentrate.

TABLE 11: Treatment of Texas Panicum (GA, AL, FL only)

Broadcast Rate Per Acre					
Timing of Treatment - Weed Size					
Preemergence		Postemergence - Grasses 1 to 3 Leaf			
Bladex 4L ^(a) (pints)	Atrazine 4L ^(b) (pints)	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Crop Oil ^(c) Concentrate (pints)	
OPTION 1					
INITIAL TREATMENT - GRASS 1 TO 3 LEAF					
		1-1.5 ^(d)	3-4 ^(d)	2	
SECOND TREATMENT 5 TO 10 DAYS AFTER INITIAL					
			2	2	
OPTION 2					
INITIAL TREATMENT - GRASS 1 TO 3 LEAF					
		0.75	3	2	
SECOND TREATMENT 5 TO 10 DAYS AFTER INITIAL					
		0.75	3	2	
OPTION 3					
2	-OR-	2	1-1.5 ^(d)	3-4 ^(d)	2

- (a) Do not apply Bladex 4L on sand or loamy sand soil with less than 1% organic matter content.
- (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 1.25 to 2.5 lb product to the spray mixture per acre. If atrazine 90% dispersible granules are used, add 1.1 to 2.2 lb of product to the spray mixture per acre.
- (c) Crop oil can be substituted for crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.
- (d) Use high rates of TANDEM and atrazine when weed pressures are heavy.

Field Sandbur - Colorado, Kansas and Nebraska, Only

For the control of field sandbur, use one of the programs in Table 12 and follow the guidelines below. If rainfall does not occur within 5 to 10 days after application, a timely cultivation may be needed for supplemental control. Additionally, under droughty conditions, an overhead irrigation of 0.5 to 1 inch of water 5 to 10 days after application will improve control. Treatments listed below include a preemergence application of Atrazine 4L followed by a postemergence application of TANDEM plus Atrazine 4L plus crop oil concentrate, while the other treatment involves only a postemergence application of TANDEM plus Atrazine 4L plus crop oil concentrate. When the field to be treated has a previous history of heavy field sandbur infestations, it is **recommended** to use the preemergence Atrazine 4L treatment followed by the postemergence TANDEM plus Atrazine 4L plus crop oil concentrate treatment.

TABLE 12: Treatment of Field Sandbur (CO, KS, NE only)

Soil Texture ^(a)	Broadcast Rate Per Acre			
	Timing of Treatment - Weed Siz.			
	Preemergence	Postemergence - Grasses 1 to 3 Leaf		
	Atrazine 4L ^(b) (pints)	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Crop Oil ^(c) Concentrate (pints)
	OPTION 1			
Coarse - 1.5% or less organic matter		1-1.5 ^(d)	3	2
	OPTION 2			
Coarse - 1.5% or less organic matter	2	1-1.5 ^(d)	3	2

- (a) Coarse texture soils include sand, loamy sand and sandy loam.
- (b) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pints)		Atrazine 80W (pounds)		Atrazine 90DF (pounds)
2	=	1.25	=	1.1
3	=	1.9	=	1.7

- (c) Crop oil can be substituted for crop oil concentrate. Use 4 pints of crop oil on weeds with 1 to 2 leaves and 6 to 8 pints when weeds are dense and have up to 3 leaves.
- (d) Use higher rate of TANDEM when weed pressures are heavy.

Shattercane: For partial control (enhanced suppression) of shattercane following a labeled application of Eradicane Extra herbicide, follow the guidelines below. TANDEM plus triazine herbicide programs applied no later than 2 leaf stage of shattercane, following a previous Eradicane Extra PPI application will aid in the management of shattercane by reducing plant populations and by providing a stunting of remaining shattercane plants. This reduction in height usually lasts 7 to 14 days following application of TANDEM plus triazine program, which provides an opportunity for the crop to obtain a height differential. Under droughty conditions, an overhead irrigation 5 to 10 days after TANDEM plus triazine application will improve results. Treatment results will be reduced under adverse environmental conditions such as low rainfall and high temperatures and in fields where soils have a history of successive thiocarbamate use.

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TABLE 13: Suppression programs for Shattercane following an Eradicane Extra PPI Application.

Preemergence	Broadcast Rate per Acre			
	Timing of Treatment - Weed Size			
	Postemergence-Shattercane (Spike to 2 Leaf)			
Eradicane Extra ^(a) (pints)	TANDEM (pints)	Atrazine 4L ^(b) (pints)	Bladex 90DF ^(c) (pounds)	COC (pints)
6.67 - 8	<u>Option #1</u>			
	1.5	4.0	-	2
	Cultivate 7-10 days later			
6.67 - 8	<u>Option #2</u>			
	1.5	2.0	1.1	-
	Cultivate 7-10 days later			
6.67 - 8	<u>Option #3</u>			
	1.5	-	2.2	-
	Cultivate 7-10 days later			

(a) Follow all recommended cultural practices on the Eradicane Extra label for suppression of shattercane and the label for the recommended rate for your soil type.

(b) Any atrazine product recommended for use on field corn may be used. Use the conversions listed below to determine the proper amount.

Atrazine 4L (pint)	=	Atrazine 80W (pounds)	=	Atrazine 90DF (pounds)
2	=	1.25	=	1.1
4	=	2.5	=	2.2

(c) Bladex 80W may be used in place of Bladex 90DF. Use the conversions listed below to determine the proper amount.

Bladex 90DF (pounds)	=	Bladex 80W (pounds)
1.1	=	1.2
2.2	=	2.5

Do not use crop oil concentrate or crop oil in mixtures that contain Bladex 90DF or Bladex 80W. Do not apply mixtures that contain Bladex 90DF or Bladex 80W to corn larger than the 4 true leaf stage. Temporary yellowing may result following application of these treatments, particularly if cold, adverse growing conditions occur after application. However, recovery is rapid and yield is not reduced. Do not apply TANDEM plus Bladex 90DF or Bladex 80W when corn is under stress from frost, prolonged cold or wet weather or when plants are wet from dew or recent rainfall. Extended or extreme cold and wet conditions after application may reduce stands. Do not use Bladex 90DF or Bladex 80W on sandy or loamy sand soil containing less than 1% organic matter. Do not apply TANDEM plus Bladex 90DF or Bladex 80W on inbred lines or breeding stock.

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 carryover.

Do not apply more than a total of 2 quarts of TANDEM from any type of application per acre per growing season.

Do not apply TANDEM herbicide to sweet corn or popcorn.

Inbred Lines or Breeding Stock: Susceptibility of corn injury from tank mixtures of TANDEM herbicide plus atrazine is highly related to varietal response. Inbred lines or any breeding stock may be severely injured by tank mixed applications of TANDEM and atrazine plus emulsifiable crop oil concentrate or crop oil. Thus, use of TANDEM on inbred lines or breeding stock IS AT THE END USERS OWN RISK. Contact your seed production agronomist for advice before tank mixtures of TANDEM plus atrazine are applied to inbred lines or breeding stock.

Do not apply TANDEM plus Bladex 80W or 90DF to inbred lines or breeding stock.

Do not apply TANDEM herbicide in combination with atrazine and/or Bladex Herbicides:

- * When corn is under stress from prolonged cold, frost, wet weather, poor fertility, storm damage, or other weather stress.
- * When crop is wet and succulent from recent rainfall.
- * In the State of Texas

Do not apply Bladex 4L, Bladex 80W, or Bladex 90DF by means of chemigation or aerial application.

Do not apply Bladex 4L, Bladex 80W, or Bladex 90DF to sand or loamy sand soil with less than 1% organic matter content.

On coarse soils, which are mild to strongly alkaline, the total amount of Bladex 4L, Bladex 80W or Bladex 90DF should not exceed 1.2 lb active ingredient per acre (eastern CO, western NE, and eastern WY).

Do not apply Bladex 80W OR Bladex 90DF postemergence to corn larger than 4 true leaf.

Tank-mixing TANDEM and triazine herbicides with other insecticides, herbicides liquid fertilizers, or other materials is not recommended because of possible compatibility or crop injury problems.

Store and handle emulsifiable oil or crop oil concentrate carefully. Oil contaminated with even a small amount of water may not emulsify properly when added to the tank.

PREEMERGENCE OR PREPLANT INCORPORATED APPLICATIONS

General Information

TANDEM herbicide is a selective preemergence or preplant incorporated herbicide to be applied either alone or as a tank mixture in combination with atrazine or Bladex 4L, Bladex 80W or Bladex 90DF for use to control annual grasses and broadleaf weeds in field corn.

TANDEM and atrazine or Bladex 4L, Bladex 80W or Bladex 90DF must be applied to the soil surface after planting and prior to weed and corn emergence and within 5 days after the last pre-plant tillage operation. If weed emergence occurs after herbicide application, shallow cultivation is recommended.

Application Procedures

Apply TANDEM herbicide as follows to ensure uniform and thorough spray coverage of soil surface.

Ground Application Only: Use broadcast boom equipment which provides for uniform spray coverage. Use 15 to 30 gallons of spray volume per acre. Use high end of recommended spray volume when weed pressures are heavy or high levels of plant residues are present. Use spray pressures and boom heights as outlined by the nozzle manufacturer to obtain the desired spray volume as previously outlined. The use of flat fan or flood nozzles are allowable. However, the use of flat fan nozzles does provide the best coverage and distribution of chemical applied. In order to maximize weed control obtained, it is important to achieve uniform coverage of the soil with TANDEM herbicide. Therefore, the use of Rainbird type nozzles is NOT RECOMMENDED. Do not use nozzles which produce large droplets.

Preemergence: Apply TANDEM to the soil during planting (behind the planter) or after planting, but before weeds and crop emerge.

Preplant Incorporated (PPI): Apply TANDEM and incorporate into the soil within 7 days before planting with an implement capable of providing a uniform incorporation to a depth of 2 inches.

The following weed species are controlled by the use of TANDEM alone:

Annual Grasses

Barnyardgrass (Echinochloa crus-galli)

Crabgrass (Digitaria spp.)

Foxtails

Giant (Setaria faberi)

Green (Setaria viridis)

Yellow (Setaria glauca)

Goosegrass (Eleusine indica)

Panicum, Fall (Panicum miliaceum)

Annual Broadleaf

Pigweed (Amaranthus spp.)

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Dosage Rates For TANDEM Used Alone

SOIL TEXTURE ^(a)	BROADCAST RATE PER ACRE
	PREEMERGENCE
	TANDEM (Pints)
Coarse, Medium or Fine - Less than 2% organic matter	1.5 - 2.5 ^(b)
Coarse, Medium or Fine - 2% to 4% organic matter	2.5 - 3 ^(b)
Coarse, Medium or Fine - 4% to 7% organic matter	3 - 4 ^(b)

- (a) 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) Use higher rates of TANDEM when weed pressures are heavy and soil organic matter labels are on the upper end of defined scale listed in the table.

The following weed species are controlled by the use of TANDEM as a tank mixture in combination with atrazine or Bladex 4L, Bladex 80W or Bladex 90DF:

Annual Grasses

Barnyardgrass (Echinochloa crus-galli)

Crabgrass (Digitaria spp.)

Foxtails

Giant (Setaria faberi)

Green (Setaria viridis)

Yellow (Setaria glauca)

Goosegrass (Eleusine indica)

Panicum, Fall (Panicum miliaceum)

Annual Broadleaves

Carpetweed (Mollugo verticilla)

Cocklebur, Common (Xanthium strumarium)

Jimsonweed (Datura stramonium)

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- Lambsquarters, Common (Chenopodium album)
- Morningglory, Tall (Ipomoea purpurea)
- Mustard (Brassica spp.)
- Nightshade, Black (Solanum nigrum)
- Pigweed (Amaranthus spp.)
- Purslane, Common (Portulaca oleracea)
- Ragweed, Common (Ambrosia artemisiifolia)
- Smartweed, Pale (Polygonum lapathifolium)
- Smartweed, Pennsylvania (Polygonum pensylvanicum)
- Sunflower, Common (Helianthus annuus)
- Velvetleaf (Abutilon theophrasti)

DOSAGE RATES FOR TANK MIXTURE OF TANDEM PLUS ATRAZINE

		BROADCAST RATE PER ACRE	
		PREEMERGENCE OR PPI	
SOIL TEXTURE ^(a)	SOIL ORGANIC MATTER LEVEL	TANDEM ^(b) (PINTS)	ATRAZINE 4L ^(c) (PINTS)
Coarse Medium Fine	Less than 2%	1.5-2.5	4
	2%	1.5-2.5	4.75
	4%	1.5-2.5	6
Coarse Medium Fine	2% to 4%	2.5-3.0	4
	4%	2.5-3.0	4.75
	4%	2.5-3.0	6
Medium Fine	4% to 7%	3.0-4.0	4.75
	7%	3.0-4.0	6

- (a) 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) Use higher rates of TANDEM when weed pressures are heavy and soil organic matter labels are on the upper end of defined scale listed in the table.
- (c) 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 2.5 lbs., 3 lbs., and 3.75 lbs. of product per acre for coarse, medium, and fine soils, respectively. If Atrazine 90% dispersible granules are used, add 2.2 lbs., 2.6 lbs., and 3.3 lbs. of product per acre for coarse, medium, and fine soils, respectively.

DOSAGE RATES FOR TANK MIXTURE OF TANDEM PLUS
BLADEX 4L, BLADFX 80W OR BLADEX 90DF

		BROADCAST RATE PER ACRE			
		PREEMERGENCE OR PPI			
SOIL TEXTURE ^(a)	SOIL ORGANIC MATTER LEVEL	TANDEM ^(b) (PINTS)	BLADEX 4L ^(c) (PINTS)	BLADEX 80W ^(c) (POUNDS)	BLADEX 90DF ^(c) (POUNDS)
Coarse	Less than 2%	1.5-2.5	1.2-2.5 ^(e)	0.75-1.5 ^(e)	0.7-1.3 ^(e)
Medium		1.5-2.5	2.5-3.5	1.50-2.25	1.3-2.0
Fine		1.5-2.5	3.5-4.0	2.25-2.5	2.0-2.2
Coarse	2% to 4%	2.5-3.0	2.5-4.0	1.5-2.5	1.3-2.2
Medium		2.5-3.0	3.5-5.0	2.0-3.25	1.8-2.9
Fine		2.5-3.0	5.0-5.5	3.0-3.5	2.7-3.1
Medium	4% to 7%	3.0-4.0	5.0-5.5	3.25-3.5	2.9-3.1
Fine		3.0-4.0	5.5-6.0	3.50-3.75	3.1-3.3

- (a) 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) Use higher rates of TANDEM when weed pressures are heavy and soil organic matter labels are on the upper end of defined scale listed in the table.
- (c) For specific use rate in relation to soil texture and soil organic matter content, refer to Bladex 4L, Bladex 80W, or Bladex 90DF labels. Rates given are ranges.
- (d) Do not apply Bladex 4L, Bladex 80W, or Bladex 90DF preemergence to peat or muck soils.
- (e) Do not apply Bladex 4L, Bladex 80W, or Bladex 90DF in the Atlantic Coastal Plain.

Use Precautions and Restrictions

1. Do not apply more than a total of 2 quarts of TANDEM from any type of application per acre per growing season.
2. Do not use TANDEM preemergence in no-till or in other management systems that have high residues on the soil surface.
3. Do not apply TANDEM preemergence through linear or center-pivot irrigation equipment.
4. Do not apply TANDEM preemergence by aerial application.
5. Do not apply TANDEM preemergence to sweetcorn or popcorn.
6. Do not apply TANDEM preemergence in the state of Texas.
7. Inbred lines or breeding stock: Susceptibility of corn injury from tank mixtures of TANDEM herbicide plus atrazine applied preemergence in highly related to varietal response. Inbred lines or any breeding stock may be severely injured by tank-mixed applications of TANDEM plus atrazine. Thus, use of TANDEM preemergence on inbred lines or breeding stock is at the end user's own risk. Contact your seed production agronomist for advice before tank mixtures of TANDEM plus atrazine are applied to inbred lines or breeding stock.

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STORAGE AND DISPOSAL

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

Pesticide Disposal: Pesticide wastes are toxic. 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.

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.

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U.S. Patent No. 4,211,549

Other Patents Pending