

Front Panel

**RESTRICTED USE PESTICIDE**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

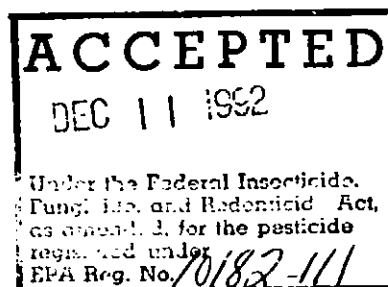
**CYCLONE® Herbicide**

**A Weed, Grass, and Harvest Aid Herbicide**

**KEEP OUT OF REACH OF CHILDREN**

**O  
DANGER POISON  
X**

**ONE SWALLOW CAN KILL!**



**SYMPTOMS ARE PROLONGED AND PAINFUL. ONSET OF SYMPTOMS MAY BE DELAYED FOR UP TO 3 DAYS AFTER SWALLOWING.**

**PELIGRO**

**PRECAUCION AL USUARIO:** Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

- DO NOT USE OR STORE IN OR AROUND THE HOME.
- DO NOT REMOVE CONTENTS EXCEPT FOR IMMEDIATE USE.
- NEVER PUT INTO FOOD, DRINK, OR OTHER CONTAINERS.
- REFER TO SIDE PANEL FOR STATEMENT OF PRACTICAL TREATMENT.
- READ PRECAUTIONARY STATEMENTS ON SIDE/BACK PANELS.

**ACTIVE INGREDIENT:**

Paraquat dichloride (1,1'-dimethyl-4,4'-bipyridinium dichloride) ..... 29.1%

**INERT INGREDIENTS:** ..... 70.9%

**Total** ..... 100.0%

Contains 2 lbs. paraquat cation per gallon.

Contains stench (odor) and emetic.

EPA Reg. No. 10182-111

EPA Est. No. 10182-

Net Contents:

Made in U.S.A.  
ICI Agricultural Products  
ICI Americas Inc.  
Wilmington, DE 19897

## STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED: IMMEDIATELY** induce vomiting by touching back of throat with finger. Administer fluids and induce further vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. **GET TO A HOSPITAL OR PHYSICIAN FAST. PROMPT TREATMENT IS ESSENTIAL AND MUST BE INITIATED BEFORE SIGNS AND SYMPTOMS APPEAR.**

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**NOTE TO PHYSICIANS: Call ICI AMERICAS MEDICAL EMERGENCY INFORMATION NETWORK 1-800-327-8633 (Dial 1-800-F-A-S-T-M-E-D)** at any hour to obtain toxicology and medical management consultation, a supply of bentonite clay, and paraquat analysis. Symptoms following ingestion may be delayed up to 3 days. To be effective, treatment for paraquat poisoning must begin **IMMEDIATELY**. Treatment consists of binding paraquat in the gut with suspensions of bentonite clay or charcoal and removal of paraquat from the blood by prolonged charcoal hemoperfusion or continuous hemodialysis.

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**IF ON SKIN: IMMEDIATELY** wash with soap and water. Remove and wash all contaminated clothing separate from other laundry with soap and hot water before reusing. Prolonged contact will cause severe irritation. Contact with irritated skin or a cut or repeated contact with intact skin may result in poisoning. **GET MEDICAL ATTENTION.**

**IF IN EYES: IMMEDIATELY** wash eyes with water for at least 15 minutes and get medical attention. Contact may cause eye injury. **CALL A PHYSICIAN.**

**IF INHALED: IMMEDIATELY** remove victim to fresh air or get away from spray mist. Exposure may cause irritation, nose bleeds and may lead to poisoning. Stop and check spray procedure. The odor of this product is from the stenching agent which has been added, not from paraquat.

Read and follow **PRECAUTIONARY STATEMENTS.**

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**FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL 1-800-F-A-S-T-M-E-D (327-8633).**

**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.**

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~~For other product information, contact your local ICI Americas Inc. Distributor or see Material Safety Data Sheet.~~

**BEST AVAILABLE COPY**

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**O**  
**DANGER POISON**  
**X**

**FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRREVERSIBLE EYE DAMAGE. CAUSES SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.**

**DO NOT** get in eyes, on skin, or on clothing. **DO NOT** breathe spray mist. **WASH SPLASHES** from skin and eyes immediately. **WASH** thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

- When pouring, loading, mixing concentrate or when exposure to concentrate is possible wear:

A NIOSH/MSHA-approved pesticide respirator.

Protective clothing (disposable suit/coveralls or long-sleeved shirt and pants).

Full face shield.

Mid-forearm waterproof gloves.

Waterproof apron and footwear.

- When spraying end-use dilution outside of an enclosed cab or aircraft or when contacting vegetation wet with spray wear:

Protective clothing (disposable suit/coveralls or long-sleeved shirt and pants).

Wide-brimmed hat.

Waterproof footwear.

- **REMOVE** contaminated clothing and wash separate from other laundry before reuse.

## ENVIRONMENTAL HAZARDS

**WILDLIFE:** This product is toxic to wildlife. Birds and other wildlife in treated areas may be killed. Do not apply directly to water or wetlands (swamps, bogs, marshes and potholes). Do not contaminate water by cleaning of equipment or disposal of waste.

**DRIFT:** CYCLONE® herbicide is a contact herbicide that kills all green plant tissue. Do not apply under conditions involving possible drift to food, forage, or other plantings that might be damaged or the crops thereof rendered unfit for sale, use, or consumption. Do not apply when weather conditions favor drift from areas treated. For aerial applicators use, do not apply during periods of thermal inversion to avoid drift. Refer to the local state laws, regulations, and guidelines for proper application to avoid off-target movement.

**CHEMICAL HAZARD:** This product reacts with aluminum to produce hydrogen gas which may form a highly combustible gas mixture. Such gas could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette, or other ignition source. Do not mix or store in containers, spray tanks, nurse tanks, or such systems made of aluminum or having aluminum fittings. After dilution with water to spray concentrations, spray systems made of, or containing aluminum parts, may be used but should not be used for extended (overnight) storage.

**EQUIPMENT/CONTAINER:** Flush all spray equipment with water after use each day. CYCLONE is corrosive to aluminum. Aluminum spray equipment and aluminum aircraft structures that are exposed to spray solution or spray drift should be flushed thoroughly with water immediately after use.

## **DIRECTIONS FOR USE**

It is a violation of Federal law and may endanger the applicator or third parties to use this product without complying with all label directions and warnings.

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH DANGER STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

**NOTE: DO NOT USE AROUND HOME GARDENS, SCHOOLS, RECREATIONAL PARKS, GOLF COURSES, OR PLAYGROUNDS.**

**DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.**

Refer to attached booklet for use directions.

## **REENTRY STATEMENTS**

**DO NOT** enter treated areas without protective clothing until sprays have dried.

**AVOID** working in spray mist. If there is a risk of exposure, wear goggles and approved face mask capable of filtering spray droplets.

**KEEP ALL UNPROTECTED PERSONS OUT OF OPERATING AREAS OR VICINITY WHERE THERE MAY BE DANGER OF DRIFT.**

Certain states may require more restrictive reentry intervals; consult your State Department of Agriculture for further information.

Written or oral warnings regarding use of protective clothing and accidental exposure must be given to workers who are expected to be in treated areas or in areas about to be treated.

**IMPORTANT:** The effect of swallowing CYCLONE is far more severe than that which usually results from skin contact or inhalation of spray mist. This product should not cause injury if used according to label instructions. Follow the label as if your life depends on it.

## **STORAGE AND DISPOSAL**

**PROHIBITIONS:** Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited.

**STORAGE:** Store at temperatures above 32°F. Do not contaminate feed, foodstuffs or drinking water. Do not store next to feed or food, or transport in or on vehicles containing foodstuffs or feeds. For help with any spill, leak, fire or exposure involving this material, call **CHEMTREC 1-800-424-9300**.

**PESTICIDE DISPOSAL:** This product is 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). Do not reuse container. Offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or dispose of by other procedures allowed by State and local authorities.

### **FOR BULK/MINI-BULK AND EZ HANDLER CONTAINERS**

**CONTAINER DISPOSAL:** Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.

### **CONTAINER PRECAUTIONS**

Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

**REFILL ONLY WITH CYCLONE.** The contents of this container cannot be completely removed by cleaning. Refilling with materials other than CYCLONE will result in contamination and may weaken container.

After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

**CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!**

**IMPORTANT:** Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product.

**CONDITIONS OF SALE AND LIMITED WARRANTY:**

The Directions for Use of this product are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as timing and method of application, weather and crop conditions, mixture with other chemicals not specifically recommended or other influencing factors in the use of the product, all of which are beyond the control of the seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label, subject to the inherent risks referred to above, when used in accordance with directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller and Buyer and User assume the risk of any such use. SELLER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF FITNESS OR MERCHANTABILITY.

When Buyer or User claims 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 Seller of any claims to be eligible to receive either of the remedies set forth below. The EXCLUSIVE REMEDY OF BUYER OR USER and the LIMIT OF LIABILITY of Seller will be, at the election of Seller, refund of the purchase price paid for product bought, or replacement of amount of product used. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE.

CYCLONE® is a trademark of an ICI Group Company.

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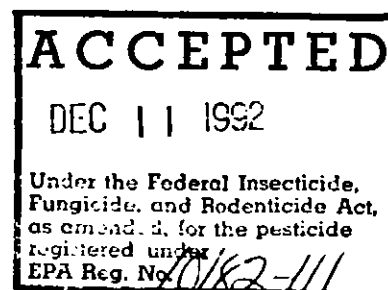
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**A Weed, Grass, and Harvest Aid Herbicide**

**COMPLETE DIRECTIONS FOR USE**

Inside of Front Cover

**DIRECTIONS FOR USE AND  
CONDITIONS OF SALE AND WARRANTY**



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Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label, subject to the inherent risks referred to above, when used in accordance with directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller and Buyer and User assume the risk of any such use. **SELLER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF FITNESS OR MERCHANTABILITY.**



When Buyer or User claims 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 Seller of any claims to be eligible to receive either of the remedies set forth below. The EXCLUSIVE REMEDY OF BUYER OR USER and the LIMIT OF LIABILITY of Seller will be, at the election of Seller, refund of the purchase price paid for product bought, or replacement of amount of product used. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE.

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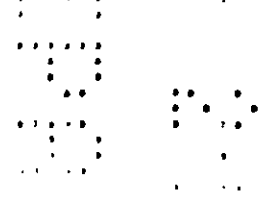
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- When pouring, loading, mixing concentrate or when exposure to concentrate is possible wear:

A NIOSH/MSHA-approved pesticide respirator.

Protective clothing (disposable suit/coveralls or long-sleeved shirt and pants).

Full face shield.

Mid-forearm waterproof gloves.

Waterproof apron and footwear.

- When spraying end-use dilution outside of an enclosed cab or aircraft or when contacting vegetation wet with spray wear:

Protective clothing (disposable suit/coveralls or long-sleeved shirt and pants).

Wide-brimmed hat.

Waterproof footwear.

- **REMOVE** contaminated clothing and wash separate from other laundry before reuse.

## ENVIRONMENTAL HAZARDS

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## **DIRECTIONS FOR USE**

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**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH DANGER STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS. READ STATEMENT OF PRACTICAL TREATMENT AND PRECAUTIONARY STATEMENTS ON PAGES \_\_\_\_.**

**NOTE: DO NOT USE AROUND HOME GARDENS, SCHOOLS, RECREATIONAL PARKS, GOLF COURSES, OR PLAYGROUNDS.**

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**KEEP ALL UNPROTECTED PERSONS OUT OF OPERATING AREAS OR VICINITY WHERE THERE MAY BE DANGER OF DRIFT.**

Certain states may require more restrictive reentry intervals; consult your State Department of Agriculture for further information.

Written or oral warnings regarding use of protective clothing and accidental exposure must be given to workers who are expected to be in treated areas or in areas about to be treated.

**IMPORTANT:** The effect of swallowing CYCLONE is far more severe than that which usually results from skin contact or inhalation of spray mist. This product should not cause injury if used according to label instructions. Follow the label as if your life depends on it.

## **GENERAL INFORMATION**

CYCLONE herbicide is a contact herbicide used to control or suppress a broad spectrum of emerged weeds. CYCLONE herbicide controls most small annual weeds -- both broadleaves and grasses, and suppresses perennial weeds by destroying green foliage. CYCLONE herbicide can also be used as a crop desiccant at harvest.

CYCLONE herbicide is formulated as a liquid which contains 2 lbs. of active ingredient per gallon. The formulation contains a nontoxic odor and an emetic (an agent which will induce vomiting if the product is swallowed). The odor is included in the formulation to help prevent accidental ingestion of CYCLONE herbicide.

CYCLONE herbicide is rapidly absorbed by green plant tissue and interacts with the photosynthetic process to produce superoxides which destroy the plant cells. CYCLONE herbicide requires actively growing green plant tissue to function. Thorough coverage of all



green foliage is essential for effective weed control. CYCLONE is not as effective on drought-stressed weeds, weeds with little green foliage (i.e., mowed or cut weeds), or mature woody bark of trees and vines.

Clay and organic matter rapidly tie up CYCLONE herbicide. As a result, CYCLONE herbicide has no residual soil activity to affect later-planted crops or later germinating weeds.

### **RAINFASTNESS**

Because CYCLONE herbicide is rapidly absorbed by the weed foliage, rain occurring 30 minutes or more after application will have no effect on the activity of CYCLONE herbicide.

### **APPLICATION**

Since CYCLONE herbicide is a contact-type herbicide, it is essential to obtain complete coverage of target weeds to get good control. Improper application technique and/or application to large, stressed, or mown weeds will usually result in unacceptable weed control. Good coverage is also essential for proper performance in harvest-aid applications. See details below for specific application instructions.

### **USE OF A NONIONIC SURFACTANT OR CROP OIL CONCENTRATE**

#### **ALWAYS ADD ONE OF THE FOLLOWING:**

Failure to add one of the following will result in reduced performance of CYCLONE herbicide.

**Nonionic Surfactant:** Add nonionic surfactant containing 75% or more surface-active agent at 0.125% v/v (1 pint per 100 gallons), OR add a nonionic surfactant containing 50-74% surface-active agent at 0.25% v/v (2 pints per 100 gallons), of the finished spray volume for ground applications. For aerial applications, add a nonionic surfactant at 0.25% v/v (2 pints per 100 gallons) of the finished spray volume.

**Crop Oil Concentrate:** Add a non-phytotoxic crop oil concentrate containing 15-20% approved emulsifier, at 1.0% v/v (1 gallon per 100 gallons) of the finished spray volume for ground applications. For aerial applications, add 1 pint of crop oil concentrate per acre. Do not use crop oil concentrate when using CYCLONE for cotton harvest aid.

## NOZZLE SELECTION

The use of flat-fan nozzles will result in the most effective application of CYCLONE herbicide. Flood nozzles are generally not as good as flat fans since they produce large uneven droplets. The use of flood nozzles may result in reduced weed control due to inadequate coverage.

**WHEN SPRAYING LESS THAN 20 GALLONS OF SPRAY CARRIER PER ACRE, USE ONLY FLAT FAN NOZZLES AS RECOMMENDED IN THE CHART BELOW.**

RECOMMENDED NOZZLES, PRESSURES AND SETUP		
	Nozzle Type	
	Flat Fan	Flood
Maximum Size	8	15
Spray Pressure (at nozzle)	30-50 P.S.I.	30-50 P.S.I.
Maximum Nozzle Spacing	30"	40"
Direction of Spray Pattern	Down	Down
Maximum Speed	10 mph	10 mph
Spray Overlap (at each edge)	30%	50%

Using nozzles, pressures, or setups different from the above chart will result in reduced control.

## SPRAY CARRIER

Always use clean water (free of mud or clay), clear liquid nitrogen, or complete clear liquid fertilizers as the carrier when spraying CYCLONE herbicide. Muddy water, or suspension-type fertilizers containing clay, can inactivate CYCLONE herbicide. Never use suspension-type fertilizers containing clay as the spray carrier. If using a complete clear liquid fertilizer containing high phosphate levels as the spray carrier, always use the higher rate of CYCLONE and surfactant.

**NOTE:** When using liquid fertilizers such as 28% N, as a carrier, it is important that nonionic surfactant still be used with CYCLONE herbicide. Liquid fertilizer carriers cannot substitute for surfactant.

## RATES OF CYCLONE

Follow recommended rates listed with each use of CYCLONE herbicide. Use the higher label rates when weeds are dense or large. Also, use higher label rates for harvest aid when crop vegetation is dense.

## SPRAY VOLUME

Follow recommended minimum spray volumes listed with each use of CYCLONE herbicide. These are minimum volumes only, and spray volumes should be increased as necessary to obtain complete coverage of the target weed or plant without runoff from the foliage.

**WHEN SPRAYING LESS THAN 20 GALLONS OF SPRAY CARRIER PER ACRE, TARGET WEEDS SHOULD NOT EXCEED 6 INCHES IN HEIGHT**

## DRIFT MINIMIZATION

**DO NOT** spray if conditions of thermal inversion exist, or if wind direction and speed may cause spray drift onto adjacent areas. With both aerial and ground applications, the use of a drift control or spray deposition additive (in accordance with label directions) may reduce the potential for drift to occur. **Drift minimization is the responsibility of the applicator.** Consult with local and state agricultural authorities for information regarding avoiding or minimizing spray drift. Refer to the local state laws, regulations, and guidelines for proper application to avoid off-target movement.

When CYCLONE is applied at less than 10 gallons per acre finished spray volume, a drift control or spray deposition additive **SHOULD** be used. Refer to the additive label for use directions.

## APPLICATION TIMING

**CYCLONE herbicide should be applied to emerged weeds when they are small. Weeds 1" to 6" in height are the easiest to control. Larger weeds may be more difficult to control.** When weeds have been grazed or mowed, thus removing much of the green foliage, allow the weeds to regrow to a height of 2 to 4 inches before spraying if possible. Similarly, when forage or grain crops have been harvested prior to spraying, weeds present in the field will also have been cut. To allow for adequate green foliage to remain on weeds in this situation, raise cutter bars as high as possible from the ground to cut stubble and weeds at a greater height.

## BURNDOWN OF GRASS COVER CROPS OR VOLUNTEER CEREALS

When using CYCLONE herbicide for control of grass cover crops or volunteer cereals, best results are obtained when CYCLONE herbicide applied prior to tillering or after boot stage. This is especially important with a wheat cover crop or volunteer wheat. Treatments made between tillering and boot stage will generally not provide complete control. **Do not expect complete control of perennial cover crops.**

## ENVIRONMENTAL CONDITIONS

CYCLONE herbicide is active over a wide range of environmental conditions. Cool weather (below 55°) will slow the activity of CYCLONE herbicide, as will cloudy, overcast weather, but will not affect performance.

In dry areas, dust stirred up by high winds or equipment tires can coat weed leaves and reduce CYCLONE herbicide activity. Avoid applying CYCLONE herbicide in extremely dusty conditions.

## SPOT SPRAYING

When only small areas are to be sprayed with labeled applications, it is advantageous to mix small quantities of CYCLONE herbicide. To aid in mixing small quantities, the following table should be consulted. When spraying with wand-type applicators as in spot spraying, always follow precautionary statements regarding use, protective clothing and footwear.

If The Broadcast Rate Per Acre for CYCLONE Is:	Add The Following Amount of CYCLONE To 1 Gallon of Water
1 pt.	3/8 fl. oz.
2 pts.	1/2 fl. oz.
2 1/4 pts.	3/4 fl. oz.
4 pts.	1-1/4 fl. oz.

Always add 1/3 to 1/2 fl. oz. of a nonionic surfactant for each gallon of spray. When spot spraying in this manner, spray to thoroughly wet the foliage, but not to the point of runoff.

## TANK MIXING FOR IMPROVED BURNDOWN OF DIFFICULT WEEDS, AND RESIDUAL WEED CONTROL

### Photosynthetic Inhibitor Herbicides

Difficult weeds can often be controlled by tank mixing CYCLONE herbicide with other herbicides. The addition of herbicides which are also photosynthetic inhibitors (PSI) will slow the activity of CYCLONE, allowing CYCLONE herbicide to thoroughly distribute itself within the treated leaf. The resulting level of control is usually greater than if CYCLONE herbicide was applied alone.

CYCLONE herbicide may be applied in tank mixture with the following PSI herbicides:

Atrazine herbicide  
Aatrex® herbicide  
Bicep® herbicide  
Bladex® herbicide  
Canopy® herbicide  
Conquest® herbicide  
Extrazine® herbicide  
Gemini® herbicide  
Griffex® herbicide  
Lexone®/Sencor® herbicides  
Lorox Plus® herbicide  
Lariat® herbicide  
Preview® herbicide  
Princep® herbicide  
Linex®/Lorox® herbicides

Refer to respective product label(s) for rates of application, directions for use, limitations, cautions and for a list of weeds controlled.

#### Improved Weed Control With PSIs

Control of difficult weeds listed below and annual grass control will be enhanced by the addition of a PSI herbicide. For best results a second application is needed.

Marestail	Prickly lettuce
Pennsylvania Smartweed	Lambsquarters
Velvetleaf	Morningglory
Malva (Cheeseweed)	Cheatgrass
Fall Panicum	Knotweed
Giant Ragweed	Volunteer wheat
Kochia	Perennial Weeds (suppression only)
Cocklebur	Barnyardgrass
Tansymustard	Broadleaf signalgrass
	Sedges

#### Improved Control of Perennial and Annual Broadleaf Weeds

When perennial broadleaf weeds such as Canada thistle, bindweed, dandelion, etc. or difficult to control annual broadleaf weeds such as giant ragweed or morningglory are present, tankmixes with 2,4-D ester (cv), 2,4-DB or Banvel® herbicide, where labeled, will help improve control. Tank mixing the amine formulation of 2,4-D with CYCLONE herbicide may result in reduced grass control.

#### Order of Tank Mixing

In general, CYCLONE herbicide tankmixes with other products should be mixed as follows:

1. Fill spray tank 1/2 full with clean water or other approved carriers such as clear liquid fertilizer.
2. Begin tank agitation and continue throughout mixing and spraying.

3. Add dry formulations (WP, DF, etc.) to tank.
4. Add liquid formulations (SC, EC, L, etc.) to tank.
5. Add CYCLONE herbicide to tank.
6. Add nonionic surfactant to tank.
7. Fill remainder of spray tank.

Always refer to labels of other pesticide products for mixing directions and precautions which may differ from those outlined here.

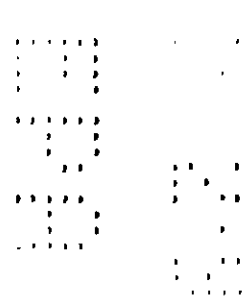
Since many of the herbicides listed on this label are available in several types of formulations, it is advisable to perform a jar test to check physical compatibility.

### **LIMITATIONS, PRECAUTIONS AND WARNINGS**

- **DO NOT** use around home gardens, schools, recreational parks, or playgrounds.
- In preplant and preemergence (to the crop) uses, do not apply to soils lacking clay minerals, i.e., peat, muck, pure sand, artificial planting media.
- Seedbeds and plantbeds should be formed as far ahead of planting and treatment as possible to permit maximum weed and grass emergence prior to treatment.
- Seeding or transplanting should be done with a minimum amount of soil disturbance.
- Weeds and grasses emerging after application of CYCLONE herbicide will not be controlled or suppressed.
- Unless otherwise indicated, crop plants emerged at time of application may be severely injured or killed if contacted by sprays of CYCLONE.
- **PRODUCT PERFORMANCE CONCERNS:** Concerns with the performance of CYCLONE herbicide must be reported to the retail dealer or to an ICI representative within 14 days of application. Weeds emerging after application or regrowth of perennial weeds do not constitute a legitimate product performance complaint.

### **SPECIFIC USE RECOMMENDATIONS**

The following tables indicate use patterns, rates, minimum spray volumes, preharvest intervals and other precautions, restrictions and comments specific to each crop. Read and follow directions carefully.



Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrict
<b>ALFALFA</b>  New seedlings (California only)	Broadcast	See Table __ page __	Ground: 10 gal Air: 5 gal	70	<ul style="list-style-type: none"> <li>• Apply during late winter or early</li> <li>• Do not cut or harvest within 70</li> <li>• Do not apply more than once du</li> <li>• Caution: Seeding alfalfa stand</li> <li>be necessary.</li> <li>• Not recommended for seeding</li> <li>• Alfalfa foliage present at time of</li> </ul>
Preplant or Preemergence (No-till or convention planting)	Broadcast or Banded Over- Row	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• Apply prior to emergence of the</li> <li>• Crop plants emerged at time of</li> <li>• Seeding should be done with a</li> </ul>
Dormant season on established plantings (WA, OR, CO, ID, MT, UT, NV, WY, and Del Norte, Siskiyou, Medoc, Shasta, Lassen, Plumas, Sierra and Nevada Counties in CA)	Broadcast	2-3 pints	Ground: 20 gal Air: 5 gal	42	<ul style="list-style-type: none"> <li>• For desiccation of weeds includi</li> <li>dogfennel, chickweed, and taney</li> <li>cheatgrass.</li> <li>• Apply to established stands after</li> <li>dormant but before spring growth</li> <li>• Do not apply if regrowth after la</li> <li>• Alfalfa foliage at time of applicat</li> <li>• Do not apply more than one pe</li> <li>• Do not cut or harvest within 42</li> </ul>

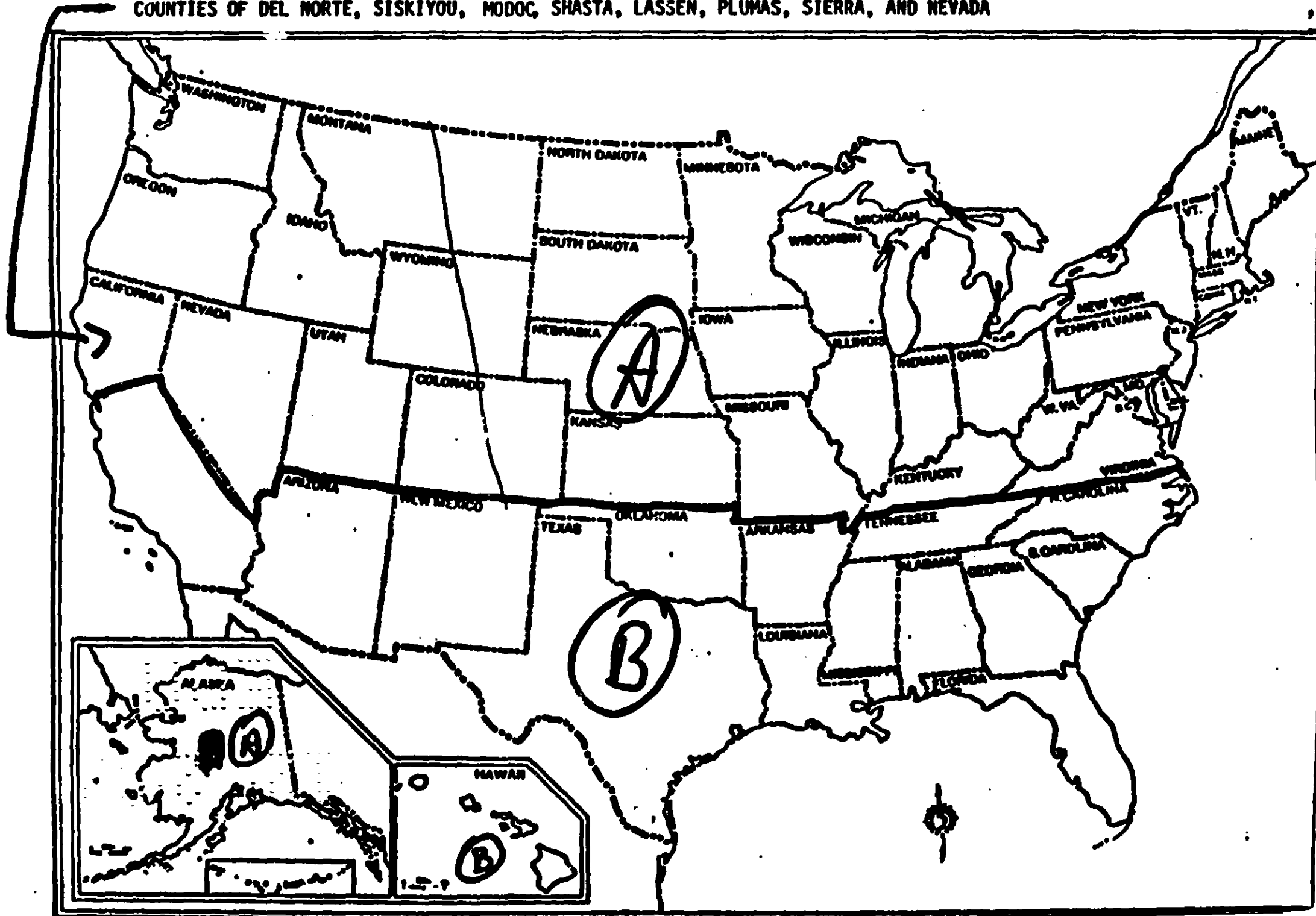
Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<p>Dormant season on established plantings (East of the Rocky Mountains and North of the Southern Borders of Co. KS, MO, KY, and VA)</p> <p>Region A - See map at end of Alfalfa section.</p>	Broadcast	2 - 3-1/8 pints	Ground: 10 gal Air: 5 gal	60	<ul style="list-style-type: none"> <li>For control of weeds, including bluegrass, chickweed, lambert, downy brome, ryegrass, cheatgrass, dogfennel, tansymustard, london rocket, sowthistle, rescue brome, wild oats, and other winter annuals; and suppression of perennial weeds.</li> <li>Do not apply if <u>fall regrowth</u> following last fall cutting is greater than 6", or if <u>spring regrowth</u> is more than 2 inches.</li> <li>Apply to well-established stands (at least one year old) after the crop is dormant, but before spring regrowth reaches one inch.</li> <li>Alfalfa foliage present at the time of application will be burned which may reduce the yield of the first cutting.</li> <li>Do not cut or harvest within 60 days of application.</li> <li>Do not apply more than once per season.</li> <li>Tank mix with metribuzin (Laxone or Sensor) for improved burndown of weed vegetation and residual weed control. Consult the metribuzin product label for a list of weeds controlled, rates of application, and precautions.</li> </ul>
<p>Dormant season Tankmix with Velpar® L herbicide (East of the Rocky Mountains and North of the Southern borders of CO, KS, MO, KY, and VA).</p> <p>Region A - See map at end of Alfalfa section.</p>	Broadcast	1½ - 2½ pints	Ground: 10 gal Air: 10 gal	42	<ul style="list-style-type: none"> <li>For control of weeds such as chickweed, downy brome and tansymustard.</li> <li>Use the 1½ pt. rate of CYCLONE when weeds and grasses are less than 4" tall.</li> <li>Mix with 1 to 2 qts. of Velpar L per acre.</li> <li>Use the lower rate of Velpar L on loamy sands or sandy loams. Refer to Velpar L label for directions, limitations, cautions and for a list of weeds controlled.</li> <li>Apply once to established alfalfa stands during the dormant season.</li> <li><del>Do not apply to regrowth that is more than 2 inches.</del></li> <li><del>Do not apply following cuttings during growing season.</del></li> <li>Do not apply if <u>fall regrowth</u> following last fall cutting is greater than 6 inches, or if <u>spring regrowth</u> is more than 2 inches.</li> <li>Do not apply to alfalfa during the first season after seeding.</li> <li>Temporary chlorosis may occur on alfalfa regrowth.</li> <li>Stress which may be caused in part by low fertility, disease, insects, winterkill, over cutting, drought or frost may increase the chances of crop injury.</li> <li><b>DO NOT USE</b> on gravelly or rocky soils, exposed subsoils, hardpan, sand or poorly drained alkaline soils as crop injury, including mortality, may result.</li> <li>Do not cut or harvest within 42 days of application.</li> </ul>



Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Dormant Season (Arizona and California)					
On established plantings: Region B- See map at end of Alfalfa section.	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal	60	<ul style="list-style-type: none"> <li>For desiccation of weeds, including London rocket, sowthistle, rescue brome, wild oats, chickweed, ryegrass, bluegrass, cheatgrass, dogfennel, tansymustard, henbit, downy brome, and other winter annuals; and suppression of perennial weeds.</li> <li>Apply during late fall or winter months after the last fall cutting and before first spring cutting.</li> <li>Do not apply if regrowth after grazing or cutting is more than 2 inches.</li> <li>Do not harvest within 60 days of application. <del>excessive residues may result.</del></li> <li>CAUTION: Applications to alfalfa that is not dormant, or has broken dormancy, may result in stand and/or yield reductions. Replanting may be necessary. Green alfalfa foliage present at the time of application will be burned.</li> <li><del>Alfalfa foliage present at the time of application will be discolored and temporarily stunted.</del></li> <li>Total hay yield of first cutting may be reduced in alfalfa fields with severe weed infestation. This reduction will usually be directly proportionate to the loss of weed weight.</li> <li>Do not apply more than once per season.</li> <li><del>Do not apply following cuttings during the growing season.</del></li> <li>Tank mix with metribuzin (Lacone or Sanbor) for improved burndown of weed vegetation and residual weed control in <u>dormant established</u> (at least 1-year old) alfalfa. Consult the metribuzin product label for a list of weeds controlled, rates of application, and precautions.</li> <li>Do not apply tankmix with metribuzin on newly established (less than 1-year old) alfalfa.</li> </ul>
On fall-seeded, newly established stands less than 1- year-old: Region A- See map at end of Alfalfa section.	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal		
On fall-seeded, newly established stands less than 1- year-old: Region B- See map at end of Alfalfa section.	Broadcast	0.5 - 1-1/4 pints	Ground: 10 gal Air: 5 gal		
					<p><b>California</b></p> <ul style="list-style-type: none"> <li>For desiccation of weeds including bluegrass, ryegrass, shepherdspurse, chickweed, tansymustard, foxtail, sowthistle and groundsel.</li> <li>Use high rate if ryegrass, shepherdspurse, sowthistle or groundsel is present.</li> </ul> <p><b>Arizona</b></p> <ul style="list-style-type: none"> <li>For desiccation of weeds, including London rocket, sowthistle, rescue brome and wild oats.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Dormant Season Tankmix with Volpar L (ID, OR, UT, and WA, NV, and the northern California Counties of Del Norte, Siskiyou, Medoc, Shasta, Lassen, Plumas, Sierra, and Nevada)	Broadcast	1½—2½ pints	Ground: 20 gal Air: 10 gal	42	<ul style="list-style-type: none"> <li>For control chickweed, downy brome and tanesymustard.</li> <li>Mix with 1 to 2 qts. of Volpar L per acre.</li> <li>Use the lower rate of Volpar L on leamy sands or sandy loams. Refer to Volpar L label for directions, limitations, cautions and for a list of weeds controlled.</li> <li>Apply once to established alfalfa stands during the dormant season.</li> <li>Do not apply to regrowth that is more than 2 inches.</li> <li>Do not apply following cuttings during growing season.</li> <li>Do not apply to alfalfa during the first season after seeding.</li> <li>Temporary chlorosis may occur on alfalfa regrowth.</li> <li>Do not cut or harvest within 42 days of application.</li> <li>Stress which may be caused in part by low fertility, disease, insects, wintorkill, over-cutting, drought or frost may increase the chance of crop injury.</li> <li><b>DO NOT USE</b> on gravelly or rocky soils, exposed subsoils, hardpan, sand or poorly drained alkaline soils as crop injury, including mortality, may result.</li> </ul>
Between-cuttings treatment in established plantings. (Includes first year alfalfa) (All states East of the Rocky Mountains)  (INSERT MAP BETWEEN THE ALFALFA AND ASPARAGUS TABLES)	Broadcast	1½ pints	Ground: 10 gal	30	<ul style="list-style-type: none"> <li>Weeds much beyond the seedling stage and the stubble of weeds cut off during harvest will be less affected by this treatment.</li> <li>Apply immediately after alfalfa has been removed for hay or silage.</li> <li>Do not treat more than 5 days after cutting.</li> <li>CAUTION: First year alfalfa stands and yields may be reduced if alfalfa is allowed to regrow more than two (2) inches.</li> <li>Alfalfa foliage present at time of application will be burned.</li> <li>In arid areas where moisture is limited, weed control may be reduced.</li> <li>Do not cut or harvest within 30 days of application.</li> <li>Make 1 to 3 applications, as needed, during the growing season. These sprays may be applied in addition to a dormant application.</li> <li>For first year alfalfa, do not apply more than twice during the first growing season.</li> </ul>

COUNTIES OF DEL NORTE, SISKIYOU, MODOC, SHASTA, LASSEN, PLUMAS, SIERRA, AND NEVADA



Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>ASPARAGUS</b> Preplant or Preemergence	Broadcast or Band Over-Row	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal Air:* 5 gal *Currently not registered for use in California.	-	<ul style="list-style-type: none"> <li>• Apply to emergence of the crop.</li> <li>• Crop plants emerged at time of application will be killed.</li> </ul>
Preemergence to established plantings at least 2 years old	Broadcast or Band Over-Row	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal	6	<ul style="list-style-type: none"> <li>• Apply prior to emergence of crop or after last harvest.</li> <li>• Crop plants emerged at time of planting will be killed.</li> <li>• May be tank-mixed with Princep herbicide for residual control. Refer to Princep label for specific directions, limitations, cautions and for a list of weeds controlled.</li> </ul>
<b>BEANS, DRY</b> (Form) <u>Cicer arietum</u> Chick peas Garbonzo beans <u>Lupinus spp</u> (including) Sweet lupine White sweet lupine White lupine Grain lupine <u>Phaseolus spp</u> (including) Black beans Kidney beans Lima beans Mung beans Navy beans Pinto beans Snap beans Wax beans <u>Vigna spp</u> (including) Asparagus beans Blackeyed peas Cowpeas	Harvest-Aid	1½ - 2½ pints	Ground: 20 gal Air: 5 gal	7	<ul style="list-style-type: none"> <li>• Add spreader (nonionic) at 1 quart per 100 gallons of spray mix.</li> <li>• For vining type beans or bush type with lush growth, use a single application of the higher rate.</li> <li>• May also be applied as a split application. <b>DO NOT</b> make more than 2 applications or exceed a total of 1.5 pints per acre. The split application may improve vine coverage.</li> <li>• Apply when the crop is mature and at least 80% of the pods are yellowing and mostly ripe with no more than 40% (<u>bush type beans</u>) or 30% (<u>vine type beans</u>) of the leaves still green in color.</li> <li>• <b>DO NOT</b> apply when weather conditions favor spray drift. A drift control agent may be included to reduce spray drift.</li> <li>• <b>DO NOT</b> use on Faba beans.</li> <li>• <b>NOT REGISTERED FOR USE ON DRY BEANS IN CALIFORNIA</b></li> </ul>

6-10-80

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>CASSAVAS, TANIER &amp; YAMS</b> (Puerto Rico only) Shielded Post directed spray)	Directed Spray	2½ pints	Ground: 50 gal Air: 5 gal	90	<ul style="list-style-type: none"> <li>• Apply when weeds are succulent and growth is 1-6 inches.</li> <li>• On cassavas and taniers, do not make more than 3 applications per crop season.</li> <li>• On yams do not make more than 2 applications per crop season.</li> <li>• Do not allow spray to contact cassavas, tanier or yam plants as injury may result.</li> <li>• Do not spray under windy conditions.</li> <li>• Do not graze treated areas or feed treated forage to livestock.</li> </ul>
<b>CLOVER</b> Dormant season on established plantings (WA, OR, CO, ID, MT, UT, NV, WY and the counties of Del Norte, Siskiyou, Medoc, Shasta, Lassen, Plumas, Sierra, and Nevada in CA)	Broadcast	2-3 pints	Ground: 20 gal Air: 5 gal	60	<ul style="list-style-type: none"> <li>• For desiccation of ryegrass, bluegrass, cheatgrass, dogfennel, chickweed, and tansymustard. Use higher rate if cheatgrass is present.</li> <li>• Apply after the last fall cutting when the crop is dormant but before spring growth starts.</li> <li>• Do not apply if regrowth following the last fall cutting is more than 2 inches.</li> <li>• Clover foliage present at the time of application will be burned.</li> <li>• Do not pasture animals in treated fields before first cutting.</li> <li>• Do not graze, cut or harvest within 60 days of application.</li> <li>• Do not apply more than once per season.</li> </ul>

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10/10/02

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>CLOVER AND OTHER LEGUMES<sup>1</sup></b>					
Dormant Season					
On established plantings: Region A- See map at end of Alfalfa section.	Broadcast	2 - 3-1/8 pints	Ground: 10 gal Air: 5 gal	60	<ul style="list-style-type: none"> <li>• For desiccation of weeds, including London rocket, sowthistle, rescue brome, wild oats, chickweed, ryegrass, bluegrass, cheatgrass, dogfennel, tansymustard, henbit, downy brome, and other winter annuals, and suppression of perennial weeds.</li> <li>• Apply during late fall or winter months after the last fall cutting and before first spring cutting.</li> <li>• Do not apply if regrowth after grazing or cutting is more than 2 inches.</li> <li>• Do not harvest within 60 days of application.</li> <li>• CAUTION: Applications to clover or other legumes that is not dormant, or has broken dormancy, may result in stand and/or yield reductions. Replanting may be necessary. Green clover or other legumes foliage present at the time of application will be burned.</li> <li>• Clover or other legumes foliage present at the time of application will be discolored and temporarily stunted.</li> <li>• Total hay yield of first cutting may be reduced in clover or other legumes fields with severe weed infestation. This reduction will usually be directly proportionate to the loss of weed weight.</li> <li>• Do not apply more than once per season.</li> </ul>
On established plantings: Region B- See map at end of Alfalfa section.	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal	60	
On fall-seeded, newly established stands less than 1- year-old: Region A- See map at end of Alfalfa section.	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal	60	
On fall-seeded, newly established stands less than 1- year-old: Region B- See map at end of Alfalfa section.	Broadcast	1/2 - 1-1/4 pints	Ground: 10 gal Air: 5 gal	60	

**California**

- For desiccation of weeds including bluegrass, ryegrass, shepherdspurse, chickweed, tansymustard, foxtail, sowthistle and groundsel.
- Use high rate if ryegrass, shepherdspurse, sowthistle or groundsel is present.

<sup>1</sup>Other legumes include velvetbean, lespedeza, lupine, sainfoin, trefoil, vetch, crown vetch, and milk vetch.

out to 20

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments															
<b>CONSERVATION RESERVE, FEDERAL SET-ASIDE, CONSERVATION COMPLIANCE PROGRAMS</b> (For use in compliance with the Federal Conservation Reserve Program or Federal set-aside programs).	Broadcast	2 - 4 pints	Ground: 2 gal Air: 1 gal	-	<ul style="list-style-type: none"><li>For improved emerged weed control or extended weed control, CYCLONE may be tank mixed with other herbicides registered for this use. Refer to tank mix herbicide labels for specific directions, limitations, cautions and for a list of weeds controlled.</li></ul>															
<b>CORN</b>  Preplant or Preemergence Used Alone	Broadcast or Banded Over Row	Weeds 1-3": 1 - 1½ pts Weeds 3-6": 1½ - 2 pts Weeds 6": 2 - 4 pts	Ground: 10 gal Air: 5 gal		<ul style="list-style-type: none"><li>Includes field, fresh, sweet, forage, fodder and popcorn.</li><li>Seedbeds should be formed as far ahead of planting and treatment as possible to permit maximum weed and grass emergence.</li><li>Seeding should be done with a minimum amount of soil disturbance.</li><li>Weeds and grasses emerging after application will not be controlled. Crop plants emerged at time of application will be killed.</li></ul>															
Tank Mixture Treatments for No- till/Reduced Till Corn	Broadcast or Banded	Weeds 1-3": 1 - 1½ pts Weeds 3-6": 1½ - 2 pts Weeds 6": 2 - 4 pts	Ground: 10 gal Air: 5 gal**	-	<ul style="list-style-type: none"><li>Apply as a broadcast spray before, during or after planting, but before crop emergence.</li><li>For improved burndown or residual control, CYCLONE may be tank mixed with the following herbicides:<table><tr><td>2,4-D Ester</td><td>Bladex</td><td>Linex*</td></tr><tr><td>AAtrax/Atrazine</td><td>Dual® herbicide</td><td>Lorox</td></tr><tr><td>Barvel</td><td>Extrazine</td><td>Modown® herbicide</td></tr><tr><td>Bicep</td><td>Griffex</td><td>Princep</td></tr><tr><td>Prowl® herbicide</td><td>Lasso® herbicide</td><td>Simazine</td></tr></table></li><li>CYCLONE may also be tank mixed with AMBUSH® Insecticide.</li><li>Refer to respective product label(s) for rates of application, directions for use, limitations, cautions, and for a list of weeds or insect's controlled.</li></ul> <p>*Not for use in California. **Refer to respective product labels to determine if these products can be applied by air.</p>	2,4-D Ester	Bladex	Linex*	AAtrax/Atrazine	Dual® herbicide	Lorox	Barvel	Extrazine	Modown® herbicide	Bicep	Griffex	Princep	Prowl® herbicide	Lasso® herbicide	Simazine
2,4-D Ester	Bladex	Linex*																		
AAtrax/Atrazine	Dual® herbicide	Lorox																		
Barvel	Extrazine	Modown® herbicide																		
Bicep	Griffex	Princep																		
Prowl® herbicide	Lasso® herbicide	Simazine																		

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Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>FIELD CORN</b> <b>POPCORN</b> <b>SWEETCORN*</b> <b>SEED CORN</b> *Currently not registered for use in California on sweet corn.	Postemergence Directed Spray Used Alone	1 - 2 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Apply when corn is at least 10 inches tall with nozzles arranged to spray no higher than the lower 3 inches of corn stalks.</li> <li>• Corn plants shorter than 10 inches may be injured and not recover (corn height measured from soil surface to top of whorl).</li> <li>• For corn greater than 20 inches tall, arrange the nozzles to spray no higher than the lower 1/3 of the corn stalks.</li> <li>• To avoid excessive crop phytotoxicity, use a shielded sprayer with skids or wheels on the spray boom to maintain spray height.</li> <li>• Corn foliage sprayed will be injured, but the crop will recover and develop normally.</li> </ul>
	Postemergence Directed Spray Tankmix with Atrazine	1½ pints	Ground: 20 gal	-	<ul style="list-style-type: none"> <li>• Do not mix with liquid fertilizer.</li> <li>• For improved control of emerged weeds (especially broadleaf weeds), Add 1/2 to 1 lb ai/acre Atrazine in a tank mix. Refer to the Atrazine label for directions, limitations, cautions and for a list of weeds controlled.</li> <li>• Constant agitation of tank mix is necessary at all times.</li> <li>• Refer to other precautions, etc., in "used alone" section immediately below.</li> </ul>
<b>FIELD CORN ONLY</b> (grain, fodder, forage, popcorn)	Postemergence directed spray USDA witchweed eradication program	2 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Initiate sprays in early July and repeat in early August if regrowth of grassy weeds occurs.</li> <li>• Follow application instructions in postemergence directed spray section above.</li> <li>• For corn greater than 20 inches tall, arrange the nozzles to spray no higher than the lower 1/3 of the corn stalks.</li> <li>• To avoid excessive crop phytotoxicity, use a shielded sprayer with skids or wheels on the spray boom to maintain spray height.</li> <li>• Corn foliage sprayed will be injured, but the crop will recover and develop normally.</li> </ul>
<b>COTTON</b>  Preplant or Preemergence (Used alone)	Broadcast	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• Apply prior to, during or after planting, but before crop emergence.</li> <li>• For fallow bed treatment, beds should be preformed to permit maximum weed and grass emergence prior to treatment.</li> <li>• Seeding should be done with a minimum of soil disturbance.</li> </ul>
Preplant (California only) (Used alone)	Broadcast	8 - 16 fl oz	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• For control of volunteer barley in preformed seedbeds.</li> </ul>



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CYCLONE Booklet  
CYC111B.RSE - RS-103092E

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Preplant or Fallow Bed (Tankmix with Goat® herbicide)	Broadcast	1 - 4 pints	Ground or Air: 10 gal	-	<ul style="list-style-type: none"> <li>Refer to Goat label for specific use directions and restrictions, and weeds controlled.</li> </ul>
Preplant (Tankmix with Bladex)	Broadcast	2 - 4 pints	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Refer to Bladex label for specific use directions and restrictions and weeds controlled.</li> </ul>
Preplant/ Preemergence (Other Tankmixes)				-	<ul style="list-style-type: none"> <li>Apply as a broadcast spray before, during or after planting, but before crop emergence.</li> <li><b>Other Tankmixes</b> <ul style="list-style-type: none"> <li>For improved burndown or residual control, CYCLONE may be tank mixed with the following herbicides: <ul style="list-style-type: none"> <li>Cotoran® herbicide (4L DF only)</li> <li>Meturon® herbicide (DF only)</li> <li>Cotton-Pro® herbicide</li> <li>Caparol® herbicide</li> <li>MSMA</li> <li>Zorial® herbicide</li> <li>Karmex®/Direx® herbicides</li> <li>Dual</li> <li>Prowl</li> </ul> </li> <li>When tank mixing with Cotoran 4L, add Dawn® dishwashing liquid to the tank at 8 oz/100-gallons water <u>prior</u> to adding the Cotoran and CYCLONE.</li> <li>When tank mixing with Cotoran DF or Meturon DF, follow mixing instructions in the "Order of Tank Mixing" section carefully and maintain constant agitation.</li> <li>When tank mixing with any of the herbicides listed above, refer to that product's label for specific directions and restrictions and for a list of weeds controlled.</li> </ul> </li> </ul>

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	Harvest Aid			-	<u>Harvest Aid Use Precautions</u> <ul style="list-style-type: none"> <li>Do not pasture lactating dairy animals.</li> <li>Do not pasture livestock in treated fields, feed treated foliage, or gin trash; within 15 days after treatment.</li> <li>Remove livestock from treated area 30 days before slaughter.</li> <li><del>Do not feed gin trash to livestock.</del></li> <li>Do not apply to cotton within 3 days before harvest.</li> <li>Repeat application if necessary. Do not make more than 2 applications or exceed a total of 2 pts./A.</li> <li>When combined with phosphate defoliants, observe livestock cautions listed on the phosphate label.</li> <li><del>When combined with chlorate defoliants, do not pasture livestock on treated areas or feed treated foliage or gin trash.</del></li> <li>Do not apply harvest within 7 days of harvest application when used with phosphate or chlorate defoliants.</li> </ul>
Harvest aid for boll opening and defoliation (Tank mix with phosphate and chlorate defoliants)	Broadcast	8 fl. oz. plus 1 pt. phosphate or 1 gal chlorate	Ground: 10 gal Air: 5 gal	7	<ul style="list-style-type: none"> <li>Development of immature bolls will be inhibited.</li> <li>Apply when 80% or more of the bolls are open and the remaining bolls to be harvested are mature.</li> <li>Follow Harvest Aid Use Precautions listed above.</li> </ul>
Other Tankmixes for boll opening and defoliation of southern cotton	Broadcast	4 - 6 oz.	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>To aid in defoliation and opening of mature bolls, CYCLONE may be tank mixed with the following products:  DEF® defoliant      HARVADE® harvest growth regulant  FOLEX® defoliant      PREP™ PGR  DROPP® defoliant      ACCELERATE® defoliant </li> <li>Apply when 60% or more of the bolls are open and the remaining bolls to be harvested are mature.</li> <li>Development of immature bolls will be inhibited.</li> <li>Refer to tank mix product label for rate, directions, limitations and cautions.</li> </ul>

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Post Defoliation-To aid in opening of mature bolls and to desiccate green weeds (except AZ & CA).	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal	3	<ul style="list-style-type: none"> <li>• Use higher rate if weed infestation is heavy or dense.</li> <li>• Apply when 75% or more of the bolls are open and remaining bolls to be harvested are mature.</li> <li>• Development of immature bolls will be inhibited.</li> <li>• Follow Harvest Aid Use Precautions listed above.</li> </ul>
Harvest aid for boll opening and defoliation of Western cotton (AZ & CA).	Broadcast Split Application	First application 1/3 - 1/2 pint plus 1-3 pts. phosphate or 1-2 gal chlorate	Ground: 10 gal Air: 5 gal	7	<ul style="list-style-type: none"> <li>• Use higher rate of CYCLONE on rank cotton.</li> <li>• Do not use more than 1/2 pt. of CYCLONE at first application as excessive desiccation may occur.</li> <li>• Apply when 60% or more of the bolls are open and the remaining bolls to be harvested are mature.</li> <li>• Development of immature bolls will be inhibited.</li> <li>• Do not use more than 4.0 lbs. of actual sodium chlorate or 2.28 lbs. of actual phosphate type defoliants per acre.</li> <li>• Follow Harvest Aid Use Precautions listed above.</li> </ul>
(Tankmix with phosphate or chlorate defoliants)		Second application 1/2 - 1 pt. alone <u>or</u> tank mixed with 1 1/2-2 gal chlorate, <u>or</u> 1 1/2-2 pts. phosphate		3 (Alone) or 7 (Tankmix)	<ul style="list-style-type: none"> <li>• In desert cotton areas or on rank vigorous cotton, use the 21 fl oz rate of CYCLONE.</li> <li>• Apply when 75% or more of the bolls are open and remaining bolls to be harvested are mature.</li> <li>• Development of immature bolls will be inhibited.</li> <li>• Follow Harvest Aid Use Precautions listed above.</li> </ul>

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Harvest aid for defoliation and boll opening of stripper or spindle harvested cotton	Broadcast	3 - 11 fl oz	Ground: 10 gal Air: 5 gal	3	<ul style="list-style-type: none"> <li>• IT IS ADVISABLE, BECAUSE OF EXTREMES IN ENVIRONMENTAL AND PLANT CONDITIONS, TO APPLY THE RANGE OF RATES ON A SMALL BLOCK OF COTTON TO DETERMINE THE RATE THAT BEST FITS YOUR NEEDS.</li> <li>• Apply when 75% of the bolls are open and the remaining bolls to be harvested are mature.</li> <li>• DEVELOPMENT OF IMMATURE BOLLS WILL BE INHIBITED. SLICE BOLLS AND INSPECT THE SEED FOR MATURITY.</li> <li>• CYCLONE may be applied alone or tank mixed with the following cotton harvest aids: <ul style="list-style-type: none"> <li>DEF® defoliant      HARVADE® harvest growth regulator</li> <li>FOLEX® defoliant      PREP™ PGR</li> <li>DROPP® defoliant      ACCELERATE® defoliant</li> </ul> </li> <li>• May be applied as a split application. Do not make more than 2 applications or exceed a total of 2 pts/Acre.</li> <li>• To avoid leaf sticking, apply CYCLONE as a desiccant approximately 3-7 days after defoliation or a conditioning application and 7-14 days before harvest.</li> <li>• Cooler temperatures may cause a longer waiting period between application of CYCLONE as a desiccant and defoliation/condition.</li> <li>• Lower rates in the range may be necessary south of I-10 in Texas where temperatures are typically higher during defoliation.</li> <li>• Follow Harvest Aid Use Precautions listed above.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Harvest aid desiccation of stripper cotton or spindle harvested cotton late season	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal	3	<ul style="list-style-type: none"> <li>• IT IS ADVISABLE, BECAUSE OF EXTREMES IN ENVIRONMENTAL AND PLANT CONDITIONS, TO APPLY THE RANGE OF RATES ON A SMALL BLOCK TO DETERMINE THE RATE THAT BEST FITS YOUR NEEDS.</li> <li>• Use to desiccate regrowth occurring after defoliation or desiccation.</li> <li>• May be applied as a split application. Do not make more than 2 applications or exceed a total of 2 pts/Acre.</li> <li>• Apply when 85% of the bolls are open and the remaining bolls to be harvested are mature.</li> <li>• Development of immature bolls will be inhibited. Slice bolls and inspect the seed for maturity.</li> <li>• To avoid leaf sticking, apply CYCLONE as a desiccant approximately 3-7 days after defoliation or a conditioning application and 7-14 days before harvest.</li> <li>• Lower rates in the range may be necessary south of I-10 in Texas where temperatures are typically higher during defoliation.</li> <li>• Follow Harvest Aid Use Precautions listed above.</li> </ul>
Desiccation of Regrowth (except California)	Broadcast	0.5 - 2 pints	Ground: 10 gal Air: 5 gal	3	<ul style="list-style-type: none"> <li>• Use to desiccate regrowth occurring after defoliation or desiccation.</li> <li>• Regrowth is difficult to control, therefore, thorough coverage with the full recommended rate is necessary.</li> <li>• Control is dependent upon growing conditions and desiccation of small new growth may not always be complete.</li> <li>• Use higher rate if regrowth is excessive.</li> <li>• Follow Harvest Aid Use Precautions listed above.</li> </ul>
<b>EASTER LILIES</b> (Field grown)	Preemergence	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Do not apply more than twice per season.</li> </ul>
<b>GRASSES</b> (For Seed) (For Use in Seedbed Preparation)	Preplant, At Planting, or Preemergence	2 - 4 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Prepare the seedbeds and allow weeds to germinate.</li> <li>• Apply CYCLONE when weeds are at the 3 to 5 leaf stage.</li> <li>• Repeat applications as necessary prior to or on the day of seeding grass emergence.</li> <li>• Do not graze treated areas or use the seed or straw from treated areas for animal feed or bedding.</li> </ul>

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<b>GUAR</b> (Preharvest desiccation)	Preharvest	2 pints	Ground: 10 gal	4	<ul style="list-style-type: none"> <li>• Apply after the pods are fully mature.</li> <li>• Do not graze treated areas or use the treated forage for animal feed.</li> </ul>
<b>MINT</b> (Peppermint, Spearmint)	Dormant Season	1½ - 3 pints	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• For suppression of weeds such as Italian ryegrass, prickly lettuce, groundsel, chickweed, downy brome and bluegrass.</li> <li>• Apply when crop is dormant before spring growth begins and when weeds are less than 6 inches tall.</li> <li>• Do not apply more than 2.4 pts per acre per dormant season.</li> <li>• May be tank mixed with Sinbar® herbicide (terbacil) weed killer for improved contact activity and residual control of Italian ryegrass, prickly lettuce and groundsel. Apply this tank mixture no more than once per season. Refer to the Sinbar label for rates, directions, and cautions and for a list of weeds controlled.</li> </ul>
<b>NONCROP USES</b>	Broadcast or Spot Treatment	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• For use in noncrop areas such as public airports, electric transformer stations, pipeline pumping stations, around commercial buildings, storage yards and other installations, fence lines or similar noncrop areas.</li> <li>• Avoid contact with the foliage of ornamentals or desired plants.</li> <li>• Repeat as necessary.</li> </ul>
<b>ONIONS (seeded) AND GARLIC</b>	Preplant/ Preemergence	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal	60 200 (CA only)	<ul style="list-style-type: none"> <li>• Use the higher rate for heavy weed infestations or wild oat control.</li> <li>• Apply only one application per season at the 5 pt per acre dosage.</li> <li>• Allow maximum weed and grass emergence prior to treatment but apply prior to crop emergence.</li> <li>• Apply a maximum of 5 pt per acre per season.</li> </ul>

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<b>PASTURE RESEEDING</b> For suppression of existing sod and undesirable emerged broadleaf weeds and grasses prior to, or at time of planting of grasses or forage legumes or winter annuuls.	Broadcast or Banded Over-Row	1 - 2 pints	Ground: 10 gal Air: 5 gal	See specific geographic recommendation	<u>West of Cascade and Sierra Nevada Mountains:</u> <ul style="list-style-type: none"> <li>• Apply in October through December after first fall rains and after weeds have emerged and sod has started new growth.</li> <li>• For best seeding results, apply on moderately to heavily grazed areas.</li> <li>• Do not use in areas with heavy sod and weed growth.</li> </ul> <u>East of Rocky Mountains</u> <ul style="list-style-type: none"> <li>• Use the 2-1/2 pint rate on vigorous or coarse sod species such as brome grass.</li> <li>• See specific directions for use in the South and Southeast for suppression of bermudagrass or bahiagrass seeds.</li> <li>• Apply prior to, or at time of seeding grasses or forage legumes, such as alfalfa, clover and birdsfoot-trefoil.</li> <li>• Apply only to grazed or mowed pastures not more than 3 2 inches in height at time of treatment.</li> </ul>
		1 pint	Ground: 10 gal Air: 5 gal		<u>South and Southeast— Bermudagrass or Bahiagrass Sods —Late Summer or Early Fall Application for Sod Suppression when Seeding Winter Annuuls:</u> <ul style="list-style-type: none"> <li>• Apply in late summer or early fall to sod not exceeding 3 2 inches in height.</li> <li>• For control of emerged Little Barley, apply in February or March before the midboot stage of Little Barley.</li> </ul>
		1 pint	Ground: 10 gal Air: 5 gal		<u>Bermudagrass Pastures - Dormant Season Suppression of Emerged Weeds</u> <ul style="list-style-type: none"> <li>• Apply during March</li> <li>• For control of little barley, apply before the mid-boot stage.</li> <li>• Do not mow for hay until 40 days after treatment.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
For Control of Endophyte-Fungus- Infected Fescue Forage Legume/Grass Mixture and Other Grass Pastures	Broadcast (Split Application)	1½ - 2½ pints followed by 1½ - 2½ pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Use split applications of 10 to 21 days apart if necessary.</li> <li>• Do not exceed 5 pints per acre total in preparation for reseeding.</li> <li>• For spring plantings, the initial application of 1½ to 2½ pts may be made the previous fall.</li> <li>• Apply when fescue is actively growing and no more than 4 inches high.</li> <li>• To reduce the infestation of endophyte-infested grass, do not allow fescue to go to seed starting with the preceding year's crop.</li> </ul>
<b>PEANUTS*</b> *Not registered for use in California.	Broadcast At Ground Crack Postemergence	11 oz Second application 11 oz	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• To control or suppress small (1-6") emerged annual grass and broadleaf weeds in peanuts at ground crack. A second application of 11 fl oz/acre may be made up to 28 days after ground crack.</li> <li>• For at ground crack use, CYCLONE can be tank mixed with Pursuit® herbicide or Dual for residual weed control. Consult the Pursuit or Dual label for a list of weeds controlled, rates of application, and precautions.</li> <li>• Make no more than two applications per season and do not apply a total of more than 22 fl oz of product per acre per season.</li> <li>• Crop foliage sprayed will be injured in the form of bronzing and crinkling but the crop will recover and develop normally.</li> <li>• Do not apply by air.</li> </ul>
(Tankmix with Basagran® herbicide)	Broadcast At Ground Crack Postemergence	11 oz Second application 11 oz	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• For improved control of weeds such as cocklebur, bristly starbur, smartweed and prickly sida, tank mix CYCLONE with Basagran at 1 pin/acre.</li> <li>• This tankmix can be applied at the ground crack stage of peanuts. A second application may be made up to 28 days after application.</li> <li>• Make no more than two applications per season and do not apply a total of more than 22 fl oz of product per acre per season.</li> <li>• Crop foliage sprayed will be injured in the form of bronzing and crinkling but the crop will recover and develop normally.</li> <li>• Refer to the Basagran label for specific use directions, limitations, cautions and for a list of weeds controlled.</li> <li>• Do not apply this tankmix if peanuts show injury (leaf phytotoxicity and/or plant stunting) produced by any other herbicide treatment as injury may be enhanced and/or prolonged.</li> <li>• Do not apply this tankmix during prolonged periods of drought or unseasonably cold weather as unsatisfactory weed control may result.</li> <li>• Do not apply by air.</li> </ul>



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(Tankmix with Butyrac® herbicide or Butoxone™ herbicide 200)	Broadcast Postemergence	11 oz Second Application 11 oz	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>For improved control of weeds such as cocklebur, sicklepod and morningglory tank mix CYCLONE with 8-16 oz (0.125-0.25 lbs) per acre of Butyrac or Butoxone 200.</li> <li>Make no more than two applications per crop and do not apply a total of more than 22 fl oz of product per crop.</li> <li>Crop foliage sprayed will be injured in the form of bronzing and crinkling but the crop will recover and develop normally.</li> <li>Refer to the complete Butyrac or Butoxone 200 label for specific use directions, limitations, cautions and for a list of weeds controlled.</li> <li>Do not apply by air.</li> </ul>
<b>PIGEON PEAS</b> (Puerto Rico only)	Directed Spray	2 pints	Ground: 10 gal	60	<ul style="list-style-type: none"> <li>Avoid contact with pigeon pea foliage.</li> <li>Do not make more than 1 application per season.</li> <li>Do not graze treated areas or feed treated forage to livestock.</li> <li>Cannery waste can be fed to livestock.</li> </ul>
<b>PINEAPPLE</b>	Directed Spray	2 - 4 pints	Ground: 10 gal	20	<ul style="list-style-type: none"> <li>Retreatment may be necessary on more mature weeds.</li> <li>Do not exceed 3 applications per season.</li> </ul>
<b>POTATO</b> Preplant or Preemergence	Broadcast	1 - 2 pints	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Apply up to ground cracking, before potatoes have emerged.</li> </ul>
Preplant (California, Washington, Oregon, Idaho only) (Used alone)	Broadcast	8 - 16 fl oz	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>For control of volunteer barley in preformed seedbeds.</li> </ul>

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Preharvest vine killing and weed desiccation (Except Northern Alabama; Counties of Marshall, DeKalb, Jackson and Cherokee)	Broadcast	1 - 2 pints	Ground: 20 gal	3	<ul style="list-style-type: none"> <li>• Begin application when leaves begin to turn yellow.</li> <li>• Immature or drought-stressed potato foliage are tolerant to CYCLONE. Desiccation will not be complete under these conditions.</li> <li>• Use 2½ pts/acre rate where quick vine kill is desired.</li> <li>• Use two applications of 1½ pts/acre when vine growth is dense. Split applications must be applied a minimum of five days apart.</li> <li>• Do not pasture livestock in treated potato fields.</li> <li>• Do not use on muck or peat soils to avoid injury to subsequent crops.</li> <li>• DO NOT use to desiccate potato vines when potatoes are to be stored or used for seed as this use may result in tuber decomposition or failure of seed pieces to germinate and grow normally.</li> <li>• Do not exceed 5 pts/acre per season.</li> </ul>
<b>RESIN SOAKING</b> (Pines)	See Page ____				
<b>SAFFLOWER</b> Preplant or Preemergence	Broadcast or Banded Over Row	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• Apply before, during, or after planting but before crop emergence.</li> </ul>
Preplant (California only)	Broadcast	8 - 16 fl oz	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• For control of volunteer barley in preformed seedbeds.</li> </ul>
<b>SMALL FRUITS</b> Blackberries Boysenberries Raspberries Blueberries	Postemergence Directed Spray	2 - 4 pints	Ground: 50 gal	-	<ul style="list-style-type: none"> <li>• Apply before emergence of new canes or shoots as injury to those canes or shoots can occur.</li> <li>• Apply as a course spray to avoid crop injury from fine spray mist.</li> </ul>
Strawberries	Postemergence Directed Spray	2 pints	Ground: 20 gal	21	<ul style="list-style-type: none"> <li>• Apply by directing spray between the rows and using shields to prevent spray contact with crop plants.</li> <li>• Do not allow spray to contact strawberry plants as injury or excessive residues may result.</li> <li>• Do not apply more than 3 times per season.</li> <li>• Do not graze livestock in treated areas.</li> </ul>

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<u><b>SMALL GRAINS</b></u> (Barley, wheat) Preplant or Preemergence	Broadcast or Banded Over Row	Weeds 1-3": 1 - 1½ pts Weeds 3-6": 1½ - 2 pts Weeds 6": 2 - 4 pts	Ground: 10 gal Air: 5 gal	-	• Do not graze livestock in treated areas or harvest for forage or hay.
CHEMICAL FALLOW General Information					<ul style="list-style-type: none"> <li>• Use higher spray volumes for better coverage as density of stubble, crop residue or weeds increase.</li> <li>• To control volunteer wheat or downy brome, fall applied treatments generally work best with CYCLONE. If possible, tank mix with Atrazine or Bladex for maximum burndown and residual control.</li> <li>• Apply from immediately after harvest up to emergence of the newly seeded crop as a broadcast or band treatment.</li> <li>• Cut wheat as high as possible to avoid cutting weeds too short, and allow the weeds to grow at least 2-3 inches after harvest before applying CYCLONE.</li> <li>• The addition of Banvel or 2,4-D may aid in the suppression of emerged perennial broadleaf weeds and large annual broadleaf weeds.</li> <li>• Refer to 2,4-D, Banvel or residual herbicide label(s) for directions, limitations, cautions and for a listing of weeds controlled.</li> <li>• For extended weed control during the fallow period, tankmixes with registered residual herbicide combinations other than those listed on this label are permissible.</li> <li>• Weeds taller than 6 inches may not be controlled.</li> <li>• Weeds and grasses emerging after application will not be controlled.</li> <li>• Crop plants emerged at the time of application will be killed.</li> <li>• By ground application, apply 10-60 gallons of spray mix per acre at 30-50 psi. By air, use 5-10 gallons of spray mix per acre. As density of stubble, crop residue or weeds increases, spray gallonage should be increased within the recommended range for complete coverage.</li> </ul>

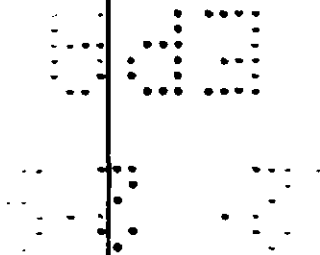
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Continuous Wheat 2-3 Month Recropping Interval	Broadcast	Weeds 1-3": 1-1.5 pts Weeds 3-6": 1.5-2 pts Weeds 6": 2-4 pts	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Make application at least 45 days prior to seeding.</li> <li>Use at least 2 pints of CYCLONE per acre with a PSI (see page ...) for volunteer wheat or downy brome control in the spring.</li> <li>Tank mix with Bladex for enhanced burndown, however, low rates (less than 2 lbs active) of Bladex may not provide complete control of volunteer wheat and downy brome.</li> <li>Refer to the Bladex label for specific use rates for your soil type, use directions, cautions and a list of weeds controlled.</li> <li>Refer to the Chemical Fallow General Information section.</li> </ul>
Wheat-Fallow- Wheat Rotations Fall applied after harvest (seeded 12-14 months later)	Broadcast	Weeds 1-3": 1-1.5 pts Weeds 3-6": 1.5-2 pts Weeds 6": 2-4 pts	Ground: 20 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Spray before weeds produce seed.</li> <li>Volunteer wheat and downy brome control are better with late August or early September applications.</li> <li>Tank mix with Atrazine and/or Bladex, Markman® herbicides, or Command® herbicide for enhanced burndown and residual weed control.</li> <li>Tank mix with Sencor 75DF for burndown and residual control of grass and broadleaf weeds.</li> <li>Refer to the product labels for specific use rates for your soil type, use directions, cautions and a list of weeds controlled.</li> <li>Refer to the Chemical Fallow General Information section.</li> </ul>
Spring applied (seeded 3-5 months later)					<ul style="list-style-type: none"> <li>Application should be made March 1 to April 15, prior to spring rains to conserve moisture.</li> <li>Volunteer wheat is easier to control after the boot stage, but soil moisture loss will be greater.</li> <li>Use at least 2 pints of CYCLONE per acre with a PSI (see page ...) for volunteer wheat or downy brome control in the spring.</li> <li>Tank mix with Bladex for enhanced burndown, however, low rates (less than 2 lbs active) of Bladex may not provide complete control of volunteer wheat and downy brome.</li> <li>Refer to the Bladex label for specific use rates for your soil type, use directions, cautions and a list of weeds controlled.</li> <li>Refer to the Chemical Fallow General Information section.</li> <li>Tank mix with Sencor 75DF for burndown and residual control of grass and broadleaf weeds.</li> <li>Refer to the Sencor 75DF label for use rates for your soil type, use directions, cautions, and weeds controlled.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<p>Wheat-Annual Crop*-Wheat Rotations (Fall applied in wheat stubble)</p> <p>Spring applied prior to planting an annual crop*)</p> <p>* Approved Annual Crops are grain sorghum, corn, wheat, or proso millet.</p>	Broadcast	<p>Weeds 1-3": 1-1.5 pts Weeds 3-6": 1.5-2 pts Weeds 6": 2-4 pts</p>	<p>Ground: 20 gal Air: 5 gal</p>	-	<ul style="list-style-type: none"> <li>• Tank mix with Atrazine and/or Bladex or Markman for enhanced burndown and residual weed control. Refer to the labels for specific use rates for your soil type, use directions, cautions, and a list of weeds controlled.</li> <li>• Spray after wheat harvest and before weeds produce seed. If grasses such as foxtails or barnyardgrass recover, respray before they develop seed.</li> <li>• Volunteer wheat and downy brome are easier to control with late August to November applications.</li> <li>• Refer to the Chemical Fallow General Information section.</li> <li>• Tank mix with Atrazine and/or Bladex for enhanced burndown and residual weed control. Refer to the labels for specific use rates for your soil type, use directions, cautions, and a list of weeds controlled.</li> <li>• Use at least 2 pints of CYCLONE per acre with a PSI (see page ___) for volunteer wheat or downy brome control in the spring.</li> <li>• Tank mix with Bladex for enhanced burndown, however, low rates (less than 2 lbs active) of Bladex may not provide complete control of volunteer wheat and downy brome.</li> <li>• Follow the Atrazine recommendations pertaining to soil pH and recropping intervals.</li> <li>• Refer to the Chemical Fallow General Information section.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>SORGHUM</b> (Grain)	Preplant/ Preemergence Broadcast or Band Application	Weeds 1-3": 1 - 1½ pts Weeds 3-6": 1½ - 2 pts Weeds 6": 2 - 4 pts	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Seedbeds should be formed as far ahead of planting as possible to allow maximum weed and grass emergence.</li> <li>Seeding should be done with a minimum amount of soil disturbance.</li> </ul>
(Tankmixes with Atrazine & 2,4-D)	Preplant or Preemergence			-	<ul style="list-style-type: none"> <li>CYCLONE may be tank mixed with Atrazine for improved preemergence or residual weed control. The addition of 2,4-D (ester) may aid in the suppression of perennial and annual broadleaf weeds emerged at the time of application. Refer to the specific tankmix herbicide label(s) for rates, directions, limitations, and cautions and a list of weeds controlled.</li> </ul>
	Postemergence Directed Applications	1 - 2 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>Apply when sorghum is at least 12 inches tall when naturally standing.</li> <li>Do not exceed 30 psi nozzle pressure or spray under conditions which may cause excessive drift.</li> <li>Use precision directed-spray application equipment adjusted so that no more than the lower 3 inches of the sorghum stalk is contacted by the application spray.</li> <li>Some crop injury will occur. The degree of injury is related to the precision of application and spraying conditions.</li> <li>Do not harvest forage, fodder, silage, or hay before the soft dough stage of the grain.</li> <li>Do not exceed 2 postemergence directed applications per season or exceed a total of 8 pints CYCLONE per season.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments																					
<u>SOYBEANS</u>	Preplant/ Preemergence	Weeds 1-3": 1 - 1½ pts Weeds 3-6": 1½ - 2 pts Weeds 6": 2 - 4 pts	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"><li>• Apply as a broadcast spray before, during or after planting, but before crop emergence.</li><li>• For improved burndown or residual control, CYCLONE may be tank mixed with the following herbicides:<table><tr><td>2,4-DB</td><td>Linux</td><td>Scepter® herbicide</td></tr><tr><td>Canopy</td><td>Lorox</td><td>Sencor</td></tr><tr><td>Dual</td><td>Lorox Plus</td><td>Surflan® herbicide</td></tr><tr><td>Gemini</td><td>Modown</td><td>Turbo® herbicide</td></tr><tr><td>Goal</td><td>Preview</td><td></td></tr><tr><td>Lasso</td><td>Prowl</td><td></td></tr><tr><td>Lexone</td><td>Pursuit</td><td></td></tr></table></li><li>• The rate of CYCLONE to be used in these tank mixtures is dependent on weed height and growing conditions. Use the highest recommended rate of CYCLONE under dry conditions or where the weed canopy is dense. Refer to the specific tank-mix herbicide label(s) for rates, directions, limitations, and cautions and for a list of weeds controlled.</li><li>• The lower rate may be used when weeds are less than 4" tall and a selective post-emergence spray or cultivation will be made within 3 weeks after planting.</li><li>• Seeding should be done with a minimum amount of soil disturbance.</li></ul>	2,4-DB	Linux	Scepter® herbicide	Canopy	Lorox	Sencor	Dual	Lorox Plus	Surflan® herbicide	Gemini	Modown	Turbo® herbicide	Goal	Preview		Lasso	Prowl		Lexone	Pursuit	
2,4-DB	Linux	Scepter® herbicide																								
Canopy	Lorox	Sencor																								
Dual	Lorox Plus	Surflan® herbicide																								
Gemini	Modown	Turbo® herbicide																								
Goal	Preview																									
Lasso	Prowl																									
Lexone	Pursuit																									
Tankmix w/2,4-D ester* *Not registered for tankmix use with this product in California.	Preplant/ Preemergence	Weeds 1-3": 1½ - 2 pts Weeds 3-6": 2 - 2½ pts Weeds 6": 2½ - 5 pts	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"><li>• Apply 2,4-D ester at 0.35-0.475 lb a.i./A at least 7 days prior to planting.</li><li>• Apply 2,4-D ester at 0.475-0.95 lb a.i./A at least 30 days prior to planting.</li><li>• Do not apply 2,4-D ester prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield.</li><li>• <del>Apply at least 30 days prior to planting.</del></li><li>• Do not use the amine formulation as CYCLONE activity may be reduced.</li><li>• May be tank mixed with residual herbicides listed above.</li><li>• Refer to the 2,4-D ester label for a list of rates, directions, limitations and cautions and for a list of weeds controlled.</li></ul>																					

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Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Directed Spray	Postemergence	1/3 to 2/3 pts	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>For control of seedling johnsongrass, crabgrass, goosegrass, brachiaria, Texas millet and pigweed less than 2 inches tall, use the lower rate of CYCLONE.</li> <li>For control of 2-4 inch red rice, <i>Brachiaria</i>, barnyard grass, crabgrass, goosegrass, seedling johnsongrass, giant foxtail, and fall panicum, use 8 fl oz of CYCLONE.</li> <li><del>For control of the above grasses up to 4 inches tall or pigweed up to 3 inches tall, use the higher rate of GRAMOXONE-EXTRA.</del></li> <li>For control of 2-3 inch sicklepod, purslane, pigweed, cutleaf ground cherry, and common ragweed, use 8 fl oz of CYCLONE.</li> <li>For control of common cocklebur, morningglory, red rice, 2-4 inch grass, and 2-3 inch pigweed, apply CYCLONE at 8 fl oz per acre plus 0.2 lb active ingredient per acre of a 2,4-DB formulation.</li> <li>Refer to the 2,4-DB label for directions, limitations, and cautions.</li> <li>Do not treat if soybeans are less than 8 inches tall.</li> <li>Use precision directed spray application equipment adjusted so that no more than the lower 3 inches of the soybean plant is contacted by the application spray.</li> <li>Do not exceed 30 psi nozzle pressure or spray under conditions which may cause excessive drift.</li> <li>Some crop injury will occur. The degree of injury is related to the precision of application and spraying conditions.</li> <li>Do not graze treated areas or feed treated forage to livestock.</li> <li>If needed make a second and final application 7-14 days later.</li> </ul>
	Harvest Aid	½ - 1 pint	Ground: 20 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Indeterminate varieties: Apply when at least 55% of the seed pods have reached a mature brown color or when seed moisture is 30% or less.</li> <li>Determinate varieties: Apply when plants are mature, i.e. beans are fully developed, 1/2 of leaves have dropped, and remaining leaves are yellowing.</li> <li>Immature soybeans will be injured.</li> <li>Mature cocklebur, especially drought-stressed plants, are tolerant to CYCLONE and desiccation will not be complete. Always use the higher rate for cocklebur.</li> <li>Do not pasture livestock in treated area within 15 days after treatment. Remove livestock from treated areas at least 30 days prior to slaughter.</li> </ul>



Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<u>SUGARCANE</u>	Postemergence Directed Spray				<u>General Comments</u> <ul style="list-style-type: none"> <li>• Apply as a shielded or directed spray to avoid contact with cane foliage to prevent leaf burn and yield reduction.</li> <li>• Make a second and final application, if necessary, when new weed growth is 2-6 inches high.</li> <li>• Do not graze treated areas or feed treated forage to livestock.</li> </ul>
-- Florida --		2 pints	Ground: 50 gal	-	<ul style="list-style-type: none"> <li>• For optimum results, apply in early spring (March-April) when weeds are small.</li> <li>• Do not apply after June 1 as cane growth may be stunted and yields reduced.</li> </ul>
-- Hawaii --		2 pints	Ground: 20 gal	-	<ul style="list-style-type: none"> <li>• Do not apply after cane rows have closed in.</li> </ul>
-- Louisiana --		1 - 2 pints	Ground: 20 gal	30	<ul style="list-style-type: none"> <li>• For tiller control, apply when tillers are less than 16 inches high.</li> <li>• Use the higher rate for heavier weed infestations or tiller growth.</li> </ul>
-- Florida & Texas --	Harvest Aid	8 - 16 fl oz	Air: 5 gal	-	<ul style="list-style-type: none"> <li>• Use higher rate under cool, cloudy weather conditions.</li> <li>• Apply 3-14 days before burning and harvest.</li> </ul>
<u>SUNFLOWER</u> Preplant or Preemergence	Broadcast or Banded Over Row	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>• Apply before, during, or after planting but before crop emergence.</li> </ul>
Preharvest Desiccation (Oil seed sunflower varieties only)	Broadcast	1 - 2 pts	Ground: 10 gal Air: 5 gal	7	<ul style="list-style-type: none"> <li>• Apply when sunflower seeds reach physiological maturity (when seed moisture is 35% or lower). For many varieties, this corresponds to the time when the back of the heads are yellow and the bracts are turning brown.</li> <li>• Do not graze treated areas or feed treated forage to livestock.</li> <li>• Use the higher rate when crop stands or weed infestations are heavy.</li> </ul>
<u>TARO, DRYLAND</u> (Hawa <sup>i</sup> Only)	Postemergence Directed Spray	1½ - 2½ pts	Ground: 10 gal	180	<ul style="list-style-type: none"> <li>• Do not allow spray to contact the taro plants as injury may result.</li> <li>• Make the first application when weed growth is 1 to 4 inches high.</li> <li>• Weeds emerging after the application will not be controlled.</li> <li>• A single re-treatment may be made; however, do not harvest dryland taro within 6 months of the last application.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>TREES AND VINES</b> Orchards, Vineyards, Windbreak, Shade & Ornamental Trees Acerola Almonds Apples Apricots Avocados Bananas Cherries Citrus Coffee Figs Filberts Grapes Kiwi Fruit Macadamia Nuts Nectarines Olives Papayas Peaches Pears Pecans Pistachios Plums Prunes Walnuts Other shade and ornamental trees such as arbovitae, ash, elm, fir, oak, pine, etc.	Directed Spray	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal	Kiwi Fruit 14 Pistachios 7 Plums 28 Olives 13 Figs 13	<ul style="list-style-type: none"> <li>Do not allow spray to contact green stems (except suckers), fruit or foliage.</li> <li>Use a shield or wrap plant when spraying around young trees or vines.</li> <li>Do not graze treated areas.</li> <li>Do not feed cover crops grown in treated areas to livestock.</li> <li>Do not apply when figs, nuts or olives to be harvested are on the ground.</li> <li>For grapes - treat when sucker growth is no more than 8" long.</li> <li>For kiwi fruit - do not treat more than 3 times per year.</li> <li>For pistachios - do not exceed two applications after shells split.</li> <li>For mature woody weeds, perennial weeds, late germinating weeds and green suckers, retreatment or spot treatment may be necessary.</li> <li>For plums - do not harvest within 28 days after application and do not exceed 3 applications per season.</li> <li>For figs - do not harvest within 13 days after application and do not exceed 5 applications per season.</li> <li>For olives - do not harvest within 13 days after application and do not exceed 4 applications per season.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Tankmixes	Directed Spray	2½ - 5 pts (use a minimum of 3 pts. in California)	Ground: 10 gal	Refer to other TM labels	<ul style="list-style-type: none"> <li>• CYCLONE may be tank mixed with registered residual herbicides listed below for combined emerged and residual weed control. Always refer to other herbicide label(s) for respective precautions, limitations, restriction, dates and directions for use and weeds controlled.</li> <li>• CYCLONE may be tank mixed with the following herbicides: <ul style="list-style-type: none"> <li>Goal                      Surflan</li> <li>Devrinol® herbicide   Solicam® herbicide</li> <li>Princep                  Karmex</li> <li>Sinbar                   Krovar® I and II herbicides</li> </ul> </li> </ul>
Guava	Directed Spray	4 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Do not allow spray to contact green stems, fruit or foliage.</li> <li>• Do not graze treated areas.</li> <li>• Do not feed cover crops grown in treated areas to livestock.</li> <li>• For mature woody weeds, late-germinating weeds and grasses, and perennials, retreatment or spot spraying may be necessary.</li> </ul>
Hops (ID, OR, & WA only)	Directed Spray and/or Suckering and Stripping	2 pints	Ground: 10 gal	14	<ul style="list-style-type: none"> <li>• <del>Do not apply to hop vines less than 6 ft. tall.</del></li> <li>• Retreatment or spot treatment may be necessary.</li> <li>• Do not apply more than 3 times per season.</li> <li>• Do not allow spray to contact green stems, foliage, flowers, or cones as injury may result.</li> <li>• Do not allow animals to graze in treated hopyards.</li> <li>• Hop vine refuse and silage may be fed to livestock.</li> <li>• For suckering and stripping, spray only the basal 2 ft. of the vines. Repeat as necessary.</li> <li>• Experience with varieties other than CASCADE, YAKIMA CLUSTER, and BULLION is limited. If using CYCLONE on other varieties than these, test the use pattern on a small number of vines of each variety to determine sensitivity to injury. Do not use on unlisted varieties if unacceptable crop injury occurs.</li> <li>• Chemical Pruning: To burn back existing vines and obtain even emergence of subsequent vines, spray when vines are less than 3 ft tall.</li> <li>• APPLICATION TO HOP VINES LESS THAN 6 FT TALL MAY CAUSE UNACCEPTABLE INJURY.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
Passion Fruit	Directed Spray	4 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Use a shield or wrap vine if bark is still green at application time.</li> <li>• If application is to be made during harvest season, pick all fruit off the ground prior to application.</li> <li>• Do not allow animals to graze on treated areas.</li> <li>• Retreatment or spot treatment may be necessary.</li> </ul>
<b>TYFON</b> (New Hampshire only)	Preplant Preemergence	2½ - 5 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>• Seeding should be done with a minimum of soil disturbance.</li> <li>• Weeds and grasses emerging after treatment will not be controlled.</li> <li>• Crop plants emerged at time of application will be injured.</li> </ul>

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b>VEGETABLES</b> (Seeded or Transplanted) Beans (Lima, Snap) Broccoli Cabbage Cantaloupe Carrots Cauliflower Chinese Cabbage Collards Cucumber Eggplant Lettuce Musk Melons Peas Peppers Pumpkin Squash Sugar Beets Sweet Corn Turnips Tomatoes Watermelons	Preplant Preemergence	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>Seedbeds or plantbeds should be formed as far ahead of treatment as possible to permit maximum weed emergence.</li> <li>Applications can be made as a banded or broadcast treatment before, during or after planting but prior to the crop emergence.</li> <li>Use the higher rate for heavier weed infestations.</li> <li>Seeding or transplanting should be done with a minimum amount of soil disturbance.</li> <li>Crop plants emerged at time of application will be killed.</li> <li>Can be used in fallow bed/stale seedbed for weed control alone or tank mixed with Goal. Consult the Goal label for a list of weeds controlled, rates of application and precautions.</li> </ul>
Lettuce Musk Melons Peppers Sugar Beets Tomatoes Watermelons	Preplant		Air: 5 gal		

Crop	Use Pattern	CYCLONE Rate Per Acre	Minimum Total Spray Per Acre	Grazing or Preharvest Interval (Days)	Precautions, Restrictions and Comments
<b><u>VEGETABLES</u></b> Tomatoes Peppers (Middle Atlantic, Southeast, South Central Regions, and Southwest to the Western Border of Texas)	Directed Spray	2 pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>For control or suppression of emerged weeds between rows after crop establishment.</li> <li>Use precision directed spray application equipment adjusted to prevent spray contact with crop plants. Do not exceed 30 psi nozzle pressure or spray under conditions which may cause excessive drift.</li> <li>Apply when weeds are succulent and weed growth is less than 6 inches.</li> <li>Do not apply more than 3 applications per season.</li> <li>Do not allow animals to graze in treated areas.</li> <li>Do not harvest tomatoes within 30 days after application.</li> </ul>
<b><u>VEGETABLES</u></b> Sweet Corn	Directed Spray	1½ pints	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>Apply when corn is at least 10 inches tall. Arrange nozzles to spray no higher than the lower 3 inches of the corn plant.</li> <li>Corn plants shorter than 10 inches may be injured and not recover (corn height measured from soil surface to top of whorl).</li> </ul>
<b><u>VEGETABLES</u></b> (California, Washington, Oregon, Idaho only) Lettuce Melon Sugar Beets Tomatoes	Broadcast	8 - 16 fl oz	Ground: 10 gal Air: 5 gal	-	<ul style="list-style-type: none"> <li>For control of volunteer barley in preformed seedbeds.</li> </ul>
<b><u>VEGETABLES</u></b> Rhubarb	Spot Spray	2 - 4 pints (use a minimum of 3 pts. in California)	Ground: 10 gal	-	<ul style="list-style-type: none"> <li>Apply during dormant season before buds in crown begin to grow.</li> <li>Do not make more than 2 applications per season.</li> </ul>

Spikeweed (4 in. tall or less)	½ pt.	1 - 2 pts.
Volunteer Small Grain (8 in. tall or less)	½ to 1 pt.	2 pts
Fiddleneck (6 in. tall or less)	½ to 1 pt.	2 pts.
Shepherdspurse	1 - 2 pts.	-
Annual Bluegrass	-	1 to 2 pts.
Chickweed	-	1 to 2 pts.
Red Maids (6 in. tall or less)	-	1 to 2 pts.

Do not use the ½ pt rate unless the alfalfa has at least 3 trifoliate leaves; the 1 pt rate unless the alfalfa has 6 trifoliate leaves; or rates over 1 pt unless there are 9 trifoliate leaves.

## RESIN SOAKING

Pines (Loblolly, Shortleaf, Longleaf, Slash, Virginia, Pond, Pitch, and Spruce Pines).

**Tree Selection** - Select trees to be treated from stands on sites not subject to periods of extreme drought stress as the desiccating effect of CYCLONE herbicide to pines is accentuated during such periods, causing a reduction in the amount of oleoresin deposited in the xylem. Select trees to be treated from vigorous, non-stagnated stands, either natural or planted. In stagnated stands or commercial timber stands, plan treating with CYCLONE herbicide not sooner than three years after a commercial thinning.

**Application Directions** - Apply CYCLONE herbicide diluted in water (0.2% to 5% cation, wt./wt. basis, depending on the type of treatment method) to a suitable wound in the tree trunk to bring the treatment into contact with the xylem (sapwood). One of the following methods may be used:

**Bark Streaks or Cuts:** This type of wound is made using a standard or rotary bark hack or a chainsaw chipping tool employed in naval stores work to remove a single one-inch wide streak of bark about 1 to 2 feet from ground level. The total length should not exceed 1/3 of the tree circumference. Multiple streaks or cuts can result in serious girdling of the trunk and premature death of the tree. A coarse spray (about 2 to 6 ml.) of CYCLONE herbicide solution (1% to 5% cation, wt./wt. basis) should be applied to runoff to the exposed xylem, using a plastic acid bottle or a low-pressure sprayer. Wear rubber gloves when using the acid bottle. The amount of spray required per cut depends on tree circumference and the length of cut or streak (1/3 of circumference). For a 9-inch diameter tree, 3 ml. of spray will cover the 1-inch

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wide streak. Using 3 ml. of a 2% or 4% CYCLONE herbicide solution will result in application of 60 or 120 mg. CYCLONE herbicide per streak.

**Tree Injection:** Pressure injections of 1% to 4% CYCLONE herbicide solution (cation, wt./wt. basis) should be applied beneath the bark and just beneath the cambium layer. Injections should be made 1 to 2 inches apart around 1/3 of the tree circumference or no closer than 3 inches apart all around the tree. From 0.2 ml to 0.4 ml of CYCLONE herbicide solution is applied per injection. Using 2% to 4% CYCLONE herbicide solution, this results in 36 to 144 mg CYCLONE herbicide applied per 9-inch diameter tree, for holes spaced 1 inch apart around 1/3 of the tree or 3 inches apart all around the tree.

**Bore Holes:** 3/8 to 5/8 inch diameter holes 2 to 6 inches deep, depending on tree diameter are bored sloping slightly downward and tangentially inward rather than directly towards the center of the tree. Solutions of 0.3% to 5% CYCLONE herbicide can be used. Lower concentrations (0.3%) are usually applied at higher volumes of 15 to 35 ml per tree, resulting in application of 45 to approximately 100 mg CYCLONE herbicide per tree. Using 2% to 4% solutions and applying 5 ml per single hole per tree results in application of 100 or 200 mg CYCLONE herbicide per tree. Bore hole applications in the range of 45 to 100 mg CYCLONE herbicide per tree have resulted in effective oleoresin induction.

**Time of Treatment:** Resin soaking can occur from treatments made any time of the year; however, cool season treatments under nondrought conditions usually result in less severe pine beetle infestations and longer tree life.

**Interval Between Treatment and Tree Harvest:** The interval between application of CYCLONE herbicide and tree harvest should be a minimum of 6 months and preferably from 12 to 24 months. Intervals of over 6 months may not be possible under conditions of drought or serious pine beetle attacks, which may make early harvest necessary. The CYCLONE herbicide treatment may encourage beetle attack, or may cause premature death of the tree. Desiccation of the xylem tissue, rather than the desired resin soaking, may occur, and is more likely at higher dosage rates.



**Effect on Stem Growth:**

CYCLONE herbicide treatment can result in reduced stem growth during the interval between treatment and tree harvest.

Dilution Table for CYCLONE Herbicide (2.0 lbs. cation per gallon):	
Concentration of Cation Desired (Wt./Wt. Basis)	To 1½ Gallon of CYCLONE Herbicide add the following No. Gals. of Water:
0.2%	118.8
0.5%	46.8
1.0%	22.9
2.0%	10.9
3.0%	6.9
4.0%	4.9
5.0%	3.7

Conversion Table CYCLONE Herbicide to be Applied			
Pints/Ac	Fl Oz/Ac	Lb a/Ac	Ac/Gal
-	7	.08	18.3
-	11	.13	11.6
-	21	.25	6.1
1½	24	.28	5.3
2	32	.38	4.6
2½	40	.47	3.2
3	48	.56	2.7
4	64	.75	2.0
5	80	.94	1.6

## STORAGE AND DISPOSAL

**PROHIBITIONS:** Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited.

**STORAGE:** Store at temperatures above 32°F. Do not contaminate feed, foodstuffs or drinking water. Do not store next to feed or food, or transport in or on vehicles containing foodstuffs or feeds. For help with any spill, leak, fire or exposure involving this material, call **CHEMTREC 1-800-424-9300**.

**PESTICIDE DISPOSAL:** This product is 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). Do not reuse container. Offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or dispose of by other procedures allowed by state and local authorities.

### FOR BULK/MINI-BULK AND EZ HANDLER CONTAINERS

**CONTAINER DISPOSAL:** Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.

### CONTAINER PRECAUTIONS

Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

**REFILL ONLY WITH CYCLONE.** The contents of this container cannot be completely removed by cleaning. Refilling with materials other than CYCLONE will result in contamination and may weaken container.

After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

**CONTAINER IS NOT SAFE FOR FOOD, FEED OR DRINKING WATER!**

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