



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

POISON

**DO NOT POUR FROM ORIGINAL CONTAINER
EXCEPT FOR IMMEDIATE USE.
ONE SWALLOW CAN KILL!**

**SUPPLEMENTAL PAMPHLET
DIRECTIONS FOR USE.**

**TO PREVENT ACCIDENTS,
NEVER PUT INTO FOOD, DRINK
OR OTHER CONTAINERS.**



ORTHO

'GRAMOXONE' CL

**DO NOT USE OR STORE IN OR AROUND THE HOME.
KEEP OUT OF REACH OF CHILDREN
READ WORKER SAFETY RULES ON BACK PANEL**

Active Ingredient
Paraquat dichloride
(1,1-dimethyl-4,4-bipyridinium dichloride)
Inert Ingredients
Contains 2 lbs. Paraquat cation per gallon

By Wt
29.1
70.9

**• A Weed and Grass Killer
• Harvest Aid Chemical**



**DANGER: ONE SWALLOW CAN KILL.
SYMPTOMS ARE PROLONGED AND PAINFUL.
ONSET OF SYMPTOMS MAY BE DELAYED FOR UP TO 3 DAYS
AFTER SWALLOWING.**

**May Be Harmful or Fatal If Absorbed Through Skin
or Inhaled. Harmful to Skin and Eyes.**

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED

IMMEDIATELY induce vomiting by inserting finger in throat. Administer fluids and induce further vomiting. Get to a hospital or physician fast. **PROMPT TREATMENT IS ESSENTIAL** and must be initiated before signs and symptoms of injury appear. **Note to Physicians:** Call the Chevron Poison Information Center (415) 233-3737 at any hour to obtain toxicology and medical management consultation, a supply of ipecac syrup, 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 ipecac syrup or charcoal and removal of paraquat from the body by prolonged charcoal therapy, emesis or or continuous hemodialysis.

SKIN CONTACT

IMMEDIATELY wash with soap and water. Remove and wash all contaminated clothing with soap and hot water before reuse. Prolonged contact will cause severe irritation. Contact with irritated skin or a cut or repeated contact with irritant may result in poisoning.

EYE CONTACT

IMMEDIATELY wash eyes with water for at least 15 minutes and get medical attention. Get to a hospital or physician fast. Do not rub eyes.

INHALATION

IMMEDIATELY get away from spray mist. Exposure may cause irritation of nose, throat and lungs. Get to a hospital or physician fast. Do not breathe the spray. Follow Worker Safety Rules on back panel.

WASH AND DESTROY CONTAINER WHEN EMPTY. NEVER REUSE.

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.

READ DANGER AND FIRST AID TREATMENT ON FRONT PANEL AND WORKER SAFETY RULES.

NOTE: Do not use Around Home Gardens, Schools, Recreational Parks or Playgrounds.

Do not combine ORTHO 'GRAMOXONE' CL with liquid fertilizer solutions except as specified below. DO NOT combine with suspension type liquid fertilizers as the activity of Paraquat will be reduced.

Use ORTHO X-77 Spreader (non-ionic). ORTHO X-77 Spreader is recommended, but a similar and suitable non-ionic surfactant may be substituted.

Do not use dirty or muddy water for Paraquat dilution as Paraquat will be inactivated.

DIRECTIONS

PREPLANT OR PREEMERGENCE USES

PREPLANT OR PREEMERGENCE USE For Kill of Emerged Annual Broadleaf Weeds and Grasses and for Top Kill and Suppression of Perennials. Apply when the weeds and grasses are succulent and growth is from 1 to 6" high (larger plants are less affected by this treatment). Note: To prevent injury to germinating crop seedlings, do not apply preplant or preemergence to soils lacking clay minerals (i.e., peat muck, pure sand, artificial planting media).

ASPARAGUS Preplant or Preemergence. Apply 1 to 2 qts per sprayed acre as a band treatment over the row or as a broadcast treatment prior to, during, or after planting, but before emergence of the crop. Add ORTHO X-77 Spreader (non-ionic) at 8 oz per 100 gals spray. Apply 50 to 100 gals spray per acre. Allow maximum weeds and grass emergence prior to treatment. Seeding or transplanting should be done with a minimum of soil disturbance. Weeds and grasses emerging after treatment will not be controlled. Crop plants emerged at time of application will be injured. Do not apply within 18 months before harvest.

COTTON Preplant or Preemergence. Ground Application. Apply 1 to 2 qts per acre as a single broadcast application in 20 to 60 gals water. Beds should be preformed to permit maximum weed and grass emergence prior to treatment. Seeding should be done with a minimum amount of soil disturbance. Weeds and grasses emerging after application will not be controlled. Add ORTHO X-77 Spreader (non-ionic) at 8 oz per 100 gals spray.

CORN, LETTUCE, MELONS, PEPPERS, SORGHUM, SUGAR BEETS, TOMATOES, SWEET POTATOS Preplant or Preemergence. Broadcast. Apply 1 to 2 qts per sprayed acre as a band treatment over the crop row, or as a broadcast treatment, prior to, during or after planting, but before emergence of the crop. Aerial Application. 5 to 10 gals water per acre. Ground Application. Use 20 to 60 gals diluted spray. Add ORTHO X-77 Spreader (non-ionic) at 8 oz per 100 gals of diluted spray. Seedbeds should be formed as far ahead of planting and treatment as possible to permit maximum weed and grass emergence. Seeding should be done with a minimum amount of soil disturbance. Weeds and grasses emerging after application will not be controlled. Crop plants emerged at time of application will be killed.

GRASSY WHEAT Preplant or Preemergence. Broadcast. Apply 1 to 2 qts per sprayed acre as a band treatment over the crop row, or as a broadcast treatment prior to, during or after planting, but before emergence of the crop. Aerial Application. 5 to 10 gals water per acre. Ground Application. Use 20 to 60 gals diluted spray. Add ORTHO X-77 Spreader (non-ionic) at 8 oz per 100 gals of diluted spray. Seedbeds should be formed as far ahead of planting and treatment as possible to permit maximum weed and grass emergence. Seeding should be done with a minimum amount of soil disturbance. Weeds and grasses emerging after application will not be controlled. Crop plants emerged at time of application may be killed. Do not graze livestock in treated area.

GRASSY WHEAT Preplant or Preemergence. Broadcast. Apply 1 to 2 qts per sprayed acre as a band treatment over the crop row, or as a broadcast treatment prior to, during or after planting, but before emergence of the crop. Aerial Application. 5 to 10 gals water per acre. Ground Application. Use 20 to 60 gals diluted spray. Add ORTHO X-77 Spreader (non-ionic) at 8 oz per 100 gals of diluted spray. Seedbeds should be formed as far ahead of planting and treatment as possible to permit maximum weed and grass emergence. Seeding should be done with a minimum amount of soil disturbance. Weeds and grasses emerging after application will not be controlled. Crop plants emerged at time of application may be killed. Do not graze livestock in treated area.

Apply 1 to 2 pts ORTHO 'GRAMOXONE' CL plus 2 1/2 to 3 1/2 lbs Atrazine 80 Wettable per acre as a broadcast spray. Refer to Atrazine 80 Wettable label for directions, limitations and cautions. Apply 20 to 60 gals

diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 fl oz per 100 gals diluted spray. Add Atrazine to spray tank first, mixing thoroughly in water. Then add ORTHO 'GRAMOXONE' CL and surfactant. Constant agitation recommended at all times.

ORTHO 'GRAMOXONE' CL plus Atrazine may be applied in liquid nitrogen and/or complete liquid fertilizer solutions when 2 1/2 or more gallons of dilute solution are applied per acre in combination with 1 to 2 pts of ORTHO X-77 Spreader (non-ionic) per 100 gals. Equipment must be adjusted and calibrated to obtain thorough coverage of undesirable vegetation. Inadequate coverage and/or the absence of ORTHO X-77 Spreader (non-ionic) will result in a severe reduction of Paraquat activity. Phosphate containing liquid fertilizer solutions will reduce the activity of Paraquat. When liquid fertilizer solutions containing phosphorus are used with ORTHO 'GRAMOXONE' CL and a rapid kill is desired, use the high ORTHO 'GRAMOXONE' CL label rate.

Link Mix with AATREX 80 W and PRINCEP 80 W.

Apply 1 to 2 pts ORTHO 'GRAMOXONE' CL plus 1 1/2 to 2 1/2 lbs PRINCEP 80 W plus 1 1/2 to 2 1/2 lbs AATREX 80 W per sprayed acre prior to, during or after planting, but before crop emergence. Use the low rates of PRINCEP and AATREX on light soils and the higher rates on heavy clay soils. Use 20 to 60 gals of diluted spray per sprayed acre. Add ORTHO X-77 Spreader (non-ionic) at 8 fl oz per 100 gals diluted spray. Add the AATREX to the spray tank while agitating, then add the PRINCEP, ORTHO 'GRAMOXONE' CL and ORTHO X-77 Spreader (non-ionic). Continue agitation during application. Refer to the AATREX and PRINCEP labels for specific precautionary statements.

PRINCEP and AATREX trademarks of CIBA GEIGY.

Link Mix with BLADEX 80 W.

Apply 1 to 2 pts ORTHO 'GRAMOXONE' CL plus 1 1/2 to 5 lbs BLADEX 80 W depending upon soil type, as a broadcast spray. Apply 20 to 60 gals diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 1 qt per 100 gals diluted spray. Add BLADEX 80 W to spray tank first, mixing thoroughly in water. Then add ORTHO 'GRAMOXONE' CL and surfactant. Constant agitation recommended at all times. Do not mix with liquid fertilizer. Refer to BLADEX 80 W label for directions, limitations and cautions. BLADEX Shell trademark.

Link Mix with LASSO and Atrazine.

Apply 1 to 2 pts ORTHO 'GRAMOXONE' CL (0.25 to 0.5 lb active) plus 4 to 5 pts LASSO (1.5 to 2.5 lbs active), plus 1.25 to 2.5 lbs Atrazine 80 Wettable (1.0 to 2.0 lbs active) per treated acre prior to, during, or after planting, but before crop emergence. Use 20 to 60 gals of diluted spray per treated acre. Add ORTHO X-77 Spreader (non-ionic) at 8 oz per 100 gals of diluted spray. Add the Atrazine to the spray tank while agitating, then add the LASSO, ORTHO 'GRAMOXONE' CL and ORTHO X-77 Spreader (non-ionic). Continue agitation during application. Refer to Atrazine and LASSO labels for cautions and for specific rates for a given soil type.

LASSO trademark of Monsanto Company.

GRAIN SORGHUM For Desiccation and Residual Control of Annual Broadleaf Weeds and Grasses Where Sorghum Will Be Planted Directly Into Previous Crop Residues. Apply 1 to 2 pts ORTHO 'GRAMOXONE' CL plus 2 to 3 lbs Atrazine 80 Wettable per acre as a broadcast ground spray before, during or after planting but before crop emergence. Refer to Atrazine 80 Wettable label for directions, limitations, cautions and for a list of weeds controlled by preemergence activity of Atrazine. Apply 20 to 60 gals diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 16 to 32 fl oz per 100 gals diluted spray. Water or nitrogen solutions may be used as a carrier. Add Atrazine to spray tank first, mixing thoroughly in carrier. Then add ORTHO 'GRAMOXONE' CL and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times. This herbicide tank mixture will not control volunteer sorghum or shattercane which emerges after application.

Link Mix with Atrazine and IGRAN. This tank mix should be used to control ORTHO 'GRAMOXONE' CL, ATRAZINE when better pre-emergence control of barnyard and crabgrass and fall panicum is needed.

Apply 1 to 2 pts ORTHO 'GRAMOXONE' CL plus 1 to 2 lbs Atrazine 80 W or 16 to 32 pts Atrazine 4L plus 2 to 2 1/2 lbs IGRAN 80 W per acre as a broadcast ground spray before, during or after planting but before crop emergence. Weed control is often superior from application made approximately one week prior to planting. Use low rates of Atrazine and IGRAN on medium soils and the higher rates on heavy soils. Refer to Atrazine and IGRAN labels for directions, limitations, cautions and for a list of weeds controlled by preemergence activity of Atrazine and IGRAN. The addition of 2,4-D (ester) at 0.5 lb active per sprayed acre may aid in the suppression of perennial broadleaf weeds and annual broadleaf weeds that have made excessive growth before application. Refer to the 2,4-D label for directions, limitations and cautions. Apply 20 to 40 gals diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 16 to 32 fl oz per 100 gals diluted spray. Use only water or nitrogen solutions as a carrier. Add IGRAN to spray tank first, mixing thoroughly in carrier. Then add Atrazine, 2,4-D (ester) and ORTHO

'GRAMOXONE' CL and ORTHO X-77 Spreader (non-ionic) Constant agitation recommended at all times
IGRAN™ trademark of CIBA-GEIGY

SOYBEANS (Preplant or Preemergence Treatment) Apply 1 to 4 pts. of **ORTHO 'GRAMOXONE' CL** per sprayed acre as a band treatment over the crop row or as a broadcast treatment prior to, during or after planting but before emergence of the crop. Use the 10 pt. rate when spring annual broadleaf weeds and grasses are less than 4 inches high or when a directed spray or cultivation will be used within 3 weeks after planting. Aerial Application: 5 to 10 gals. spray mix per acre. Ground Application: 20 to 60 gals. spray mix per acre. Add **ORTHO X-77 Spreader (non-ionic)** at 8 fl. oz. per 100 gals. of diluted spray. Seeding should be done with a minimum amount of soil disturbance. Weeds and grasses emerging after application will not be controlled. Crop plants emerged at time of application may be killed and yields reduced.

SOYBEANS (Minimum Tillage System)
Tank Mix with **LASSO** and **LOROX** 50 WP

Use this tank mixture for control of most emerged annual weeds. Suppression of many emerged perennial weeds and preemergence control of many annual weeds when soybeans will be planted directly into a cover crop, stale seed bed or in previous crop residues such as wheat stubble. This tank mixture will not control regrowth from perennial weeds. Do not apply by air.

For weeds controlled preemergence, see the **LASSO** or **LASSO EC** and **LOROX** 50 WP labels. Refer to the **LASSO** or **LASSO EC** and **LOROX** 50 WP labels for precautionary statements, crop rotation restrictions, rates which are dependent upon soil textures, directions, limitations and cautions.

Broadcast treatment Apply 1 to 2 pts. **ORTHO 'GRAMOXONE' CL** in this tank mixture in 20 to 60 gals. water per acre immediately before, during or after planting but before crop emergence. Use the 2 pt. rate if any weeds are 4 to 6 inches tall. This mixture may not control weeds taller than 6 inches. As density of stubble, crop residue or weeds increases, spray gallonage should be increased within the recommended range for complete coverage. Add **ORTHO X-77 Spreader (non-ionic)** at 8 fl. oz. per 100 gals. of diluted spray. First add the **LOROX** 50 WP to the spray tank while agitating, then add the **LASSO** or **LASSO EC**, **ORTHO 'GRAMOXONE' CL** and **ORTHO X-77 Spreader (non-ionic)**. Continue agitation during application.

LASSO™ trademark of Monsanto Company
LOROX™ trademark of DuPont

SOYBEANS (Preemergence Treatment) For Kill of Emerged Annual Broadleaf Weeds and Grasses and for Top Kill and Suppression of Emerged Perennials When Soybeans Will Be Planted Directly into a Prepared Bed, Cover Crop or in Previous Crop Residues.

Tank-Mix with **LOROX**

Apply 1 pt. **ORTHO 'GRAMOXONE' CL** plus 1 to 3 lbs. **LOROX** Linuron Weed Killer—50 Wettable on sandy loam 1 1/4 to 4 lbs. on silt loam 1 1/2 to 5 lbs. on clay loam soils per sprayed acre as a band treatment over the crop row or as a broadcast treatment after planting but before emergence of the crop. Aerial Application: Apply 5 to 10 gals. spray mix per acre. Ground Application: Use 20 to 60 gals. diluted spray. Add **ORTHO X-77 Spreader (non-ionic)** at 8 fl. oz. per 100 gals. of diluted spray. Seeding should be done with a minimum amount of soil disturbance. Crop plants emerged at time of application will be killed. For band applications, compute amount of **ORTHO 'GRAMOXONE' CL** and **LOROX** needed per acre by dividing the band width by the inches between crop rows and then multiplying the answer by the recommended broadcast rates. Refer to the **LOROX** Linuron Weed Killer label for cautions.

This herbicide tank mixture WILL NOT CONTROL Rhizome Johnsongrass.

LOROX™ trademark of DuPont

Tank Mix with **LASSO** and **SENCOR**

For Contact Action on Emerged Weeds and Preemergence Control of Smartweed, Pigweed and Cocklebur. (This tank mix should be used instead of **ORTHO 'GRAMOXONE' CL**, **LOROX** or **ORTHO 'GRAMOXONE' CL** + **SENCOR** when better preemergence control of crabgrass and foxtail is desired.)

Apply 1 to 2 pts. **ORTHO 'GRAMOXONE' CL** plus 2 to 2 1/2 qts. **LASSO** (4 lb. gal. EC) plus 1/2 to 2 lbs. **SENCOR** 50 WP per acre as a preemergence broadcast ground spray. Refer to **LASSO** and **SENCOR** 50 WP labels for rates which are dependent upon soil textures, directions, limitations and cautions. Apply in 20 to 60 gals. spray mix per acre. Use the 2 pt. rate of **ORTHO 'GRAMOXONE' CL** if weeds are 4 to 6 inches tall. This mixture will not control weeds taller than six inches. Add **ORTHO X-77 Spreader (non-ionic)** at 8 fl. oz. per 100 gals. of diluted spray. Add **SENCOR** 50 WP to the spray tank first and mix thoroughly. Then add **LASSO** followed by **ORTHO 'GRAMOXONE' CL** and **ORTHO X-77 Spreader (non-ionic)**. Constant agitation is recommended at all times. Do not use treated vines for feed or forage.

LASSO™ trademark of E. I. du Pont de Nemours & Co., Inc.

SENCOR™ trademark of the Parent Company of Farbenfabriken Bayer GmbH, Leverkusen

Tank Mix with **SENCOR**

For Contact Action on Emerged Weeds and Preemergence Control of Smartweed, Pigweed and Cocklebur. (This tank mix should be used instead of **ORTHO 'GRAMOXONE' CL** + **LOROX** when infestations of emerged smartweed, pigweed and cocklebur are present at application and when better preemergence control of these species is desired.)

Apply 1 to 2 pts. **ORTHO 'GRAMOXONE' CL** plus 1/4 to 2 lbs. **SENCOR** 50 WP according to **SENCOR** label recommendations as a broadcast ground spray before, during or after planting but before emergence of the crop. Use the 2 pt. rate of **ORTHO 'GRAMOXONE' CL** if weeds are 4 to 6 inches tall. This mixture will not control weeds taller than six inches. Apply in 20 to 60 gals. spray mix per acre. Add **ORTHO X-77 Spreader (non-ionic)** at 1 qt. per 100 gals. of diluted spray. Do not use treated vines for feed or forage.

Refer to the **SENCOR** 50 WP label for cautions, limitations and recommended rates for specific soil textures. In using minimum tillage equipment, it is important to observe the proper planting depth caution stated on the **SENCOR** label so application is not made directly onto the soybean seed.

SENCOR™ trademark of the Parent Company of Farbenfabriken Bayer GmbH, Leverkusen

Tank Mix with **SURFLAN** and **SENCOR** or with **SURFLAN** and **LEXONE** For Contact Action on Emerged Weeds and Preemergence Control of Smartweed, Pigweed, Lambsquarters, Velvetleaf, Common Ragweed, Foxtail and Fall Panicum. (This tank mix should be used instead of **ORTHO 'GRAMOXONE' CL** + **LASSO** + **SENCOR**, **ORTHO 'GRAMOXONE' CL** + **SENCOR** or **ORTHO 'GRAMOXONE' CL** + **LOROX** when longer residual control of foxtail and fall panicum is desired.)

Apply 1 qt. **ORTHO 'GRAMOXONE' CL** plus 1 to 2 lbs. **SURFLAN** 75 WP plus 1/2 to 1 lb. **SENCOR** 50 WP or **LEXONE** 50 WP per acre at planting or within 2 days after planting. Refer to **SURFLAN** and **SENCOR** or **LEXONE** labels for rates which are dependent upon soil textures, directions, limitations and cautions. Apply in 20-40 gals. spray mix per acre. Add **ORTHO X-77 Spreader (non-ionic)** at 8 fl. oz. per 100 gals. of diluted spray. Add **SENCOR** 50 WP or **LEXONE** 50 WP to the spray tank first and mix thoroughly. Then add **SURFLAN** 75 WP followed by **ORTHO 'GRAMOXONE' CL** and **ORTHO X-77 Spreader (non-ionic)**. Constant agitation is recommended at all times. Do not use treated vines for feed or forage.

SURFLAN™ trademark of Elanco Products Company

SENCOR™ trademark of the Parent Company of Farbenfabriken Bayer GmbH, Leverkusen

LEXONE™ trademark of E. I. du Pont de Nemours & Co., Inc.

POTATOES (After Planting—Preemergence Treatment) Ground Application Apply 1 to 2 pts. per acre as a broadcast application in 30 to 100 gals. water. Add **ORTHO X-77 Spreader (non-ionic)** at 8 oz. per 100 gals. spray. The application should be delayed to provide maximum weed and grass emergence but should be applied not later than ground cracking before potatoes have emerged. Application made after crop emergence has reduced yields of certain sensitive varieties. Weeds and grasses emerging after application will not be controlled. Post-emergence cultivations should be performed as required to control subsequent weed and grass emergence.

SEEDBED PREPARATION FOR ESTABLISHING GRASSES FOR SEED PRODUCTION To Control Grasses and Broadleaved Weeds—Prepare the seedbed and allow weed seeds to germinate. When broadleaved weeds and annual grasses are at the 3 to 5 leaf stage, apply 1 qt. in 20 to 40 gals. water per acre (larger weeds will be less affected by this treatment). Add **ORTHO X-77 Spreader (non-ionic)** at 8 oz. per 100 gals. diluted spray. This treatment can be repeated prior to or on day of seeding. Do not allow animals to graze on treated areas. Do not use seed from treated areas for animal feed. Do not use straw from treated areas for animal bedding or feed.



BERMUDA GRASS PASTURES For the Suppression of Emerged Annual Broadleaved Weeds and Grasses in Existing Little Barley, Bromes, Buttercup, and other Pastures—Apply 1 qt. in 20 to 40 gals. water per acre.

Apply 1 pt. per acre in 20 to 50 gals. water with ground equipment or 3 to 5 gals. water per acre with fixed wing aircraft during March. For control of Little Barley, apply before the mid boot stage. Add 1 qt. **ORTHO X-77 Spreader (non-ionic)** per 100 gals. spray mix. Do not pasture or mow for hay until 40 days after treatment.

PREHARVEST AID USES

COTTON HARVEST AID

TO AID IN OPENING OF MATURE BOLLS AND TO DESICCATE GREEN LEAVES 1/2 pt. in combination with 1 pt. of phosphate or 1 gal. of chlorate defoliant per acre. Apply when 80% or more of the bolls are open and the remaining bolls to be harvested are mature. Development of immature bolls will be inhibited.

TO DESICCATE STRIPPER COTTON 1 to 2 pts. per acre. When foliage is dense, use 2 applications of 1 pt. if necessary. Apply when 85% or more of the bolls are open and the remaining bolls to be harvested are mature. Development of immature bolls will be inhibited.

AIRIAL APPLICATION Apply 3 to 10 gals. spray mix per acre. Use ORTHO X-77 Spreader (non-ionic) at 1 pt. per 100 gals. spray mix. Do not apply during periods of thermal inversion to avoid drift.

GROUND APPLICATION Apply 10 to 30 gals. spray mix per acre. Arrange nozzles to provide thorough coverage of the foliage. Use ORTHO X-77 Spreader (non-ionic) at 1 pt. per 100 gals. spray mix.

May apply as split application. Do not pasture lactating dairy animals. Do not pasture livestock in treated fields within 15 days after treatment. Remove livestock from treated area 30 days before slaughter. Do not feed gin trash to livestock. Do not apply to cotton within 3 days before harvest. Repeat application if necessary. Do not make more than 2 applications or exceed a total of 2 pts. per acre. When combined with phosphate defoliants, observe livestock cautions listed on the phosphate label. When combined with chlorate defoliants, do not pasture livestock on treated areas or feed treated forage to livestock. Do not apply within 7 days when used with phosphate or chlorate defoliant.

GUAR For Use as a Preharvest Crop Desiccant. Apply 1 qt. in 20 to 30 gals. of water per acre. Add ORTHO X-77 Spreader (non-ionic) at 1 to 2 qts. per 100 gals. water. Apply after pods are fully matured. Do not harvest until at least 4 days after application. Do not graze treated areas or feed treated forage to livestock.

POTATO VINES, PREHARVEST VINE KILLING 1 to 2 pts. per acre. Use the 2 pt. rate where vine growth is vigorous or where quick vine kill is desired or 2 applications of 1 pt. when vine growth is dense. Use the 1 pt. rate on maturing vines. Apply in 50 to 100 gals. water per acre with thorough coverage. Add 8 oz. of ORTHO X-77 Spreader (non-ionic) per 100 gals. water. Do not make more than 2 applications with a minimum of 5 days between applications. Do not apply ORTHO 'GRAMOXONE' CL to potatoes within 3 days before harvest. Do not pasture livestock in treated potato fields. To avoid injury to subsequent crops, do not use on muck or peat soils. Do not use ORTHO 'GRAMOXONE' CL for desiccating potato vines when the potatoes are to be stored or used for seed as this use may result in tuber decomposition and failure of seed pieces to germinate and grow normally.

Soybean HARVEST AID - Apply 1/2 to 1 pt. per acre on Broadleaf Weeds and Grasses. Use high rate on Cocklebur. Add 1 qt. ORTHO X-77 Spreader (non-ionic) per 100 gals. spray. Aerial Application: 2 to 5 gals. spray per acre. Ground Application: 20 to 40 gals. spray per acre. Indeterminate Varieties: Apply when at least 65% of the seed pods have reached a mature brown color or when seed moisture is 30% or less. Determinate Varieties: Apply when soybean plants are mature, i.e., beans are fully developed at least 1/2 of leaves have dropped and leaves of all plants are turning yellow. Immature soybeans will be injured. Mature cockleburs, especially drought-stressed plants, are tolerant to Paraquat and desiccation will not be complete. Do not pasture livestock within 15 days of treatment. Remove livestock from treated fields at least 30 days before slaughter.

SUNFLOWER, SELECTED VARIETIES ONLY: For Desiccation of Sunflower Plants and Broadleaf Weeds and Grasses to Facilitate Harvest. Apply 1 to 2 pts. ORTHO 'GRAMOXONE' CL per acre in 5 gals. spray mix by air or in 20 to 40 gals. by ground application equipment. Use the higher rate when crop stands or weed infestations are heavy. Apply when the sunflower seeds reach physiological maturity (when the heads are yellow and bracts are turning brown) and harvest 7 to 21 days after application. Add ORTHO X-77 Spreader (non-ionic) at 1 qt. per 100 gals. water. Do not graze treated areas or feed treated forage to livestock.

DIRECTED SPRAYS

ORTHOGUARD VINYLTYPE. BROADLEAF, SHADE AND ORNAMENTAL TREES. Apply as directed spray at 2 qts. per sprayed acre in 50 to 200 gals. water to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. water. Apply when the weeds and grasses are succulent and the new growth is from 1 to 6 inches high. For mature woody weeds, late germinating weeds and grasses and for perennials, retreatment or spot treatment may be necessary. **CAUTION:** Do not allow spray to contact green stems, fruit or foliage as injury may result. Do not spray under windy conditions and use a shield for young trees. Do not allow animals to graze on treated areas.

and suppression of perennials and green suckers under Ebbert trees in the interspaces and around the base of trees and vines. Almonds, Apples, Apricots, Avocadoes, Bananas, Cherries, Citrus, Coffee, Figs, Filberts, Grapes, Macadamia Nuts, Nectarines, Olives, Papayas, Peaches, Pears, Pecans, Plums, Prunes, Walnuts and other trees such as Arborvitae, Ash, Elm, Fir, Oak and Pine. Apply as a directed spray at 1 to 2 qts. per sprayed acre in 30 to 150 gals. water (use 30 to 50 gals. water for pecans) to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 oz. per 100 gals. water. Apply when the weeds and grasses are succulent and the new growth is from 1 to 6 inches high. For mature woody weeds, green suckers, late germinating weeds and grasses, and for perennials, retreatment or spot treatment may be necessary. **CAUTION:** Do not allow spray to contact green stems, fruit or foliage as injury may result. Do not spray under windy conditions and use a shield for young trees or vines. Do not allow animals to graze on treated areas. Do not apply when nuts to be harvested are on the ground.

GUAVA Apply as directed spray at 2 qts. per sprayed acre in 50 to 200 gals. water to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. water. Apply when the weeds and grasses are succulent and the new growth is from 1 to 6 inches high. For mature woody weeds, late germinating weeds and grasses and for perennials, retreatment or spot treatment may be necessary. **CAUTION:** Do not allow spray to contact green stems, fruit or foliage as injury may result. Do not spray under windy conditions and use a shield for young trees. Do not allow animals to graze on treated areas.

PASSION FRUIT Apply as a directed spray at 2 qts. per sprayed acre in 50 to 200 gals. water to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. water. Apply when the weeds and grasses are succulent and the new growth is from 1 to 6 inches high. For mature woody weeds, late germinating weeds and grasses and for perennials, retreatment or spot treatment may be necessary. **CAUTION:** Do not allow spray to contact green stems, fruit or foliage as injury may result. Do not spray under windy conditions and use a shield for young vines. If bark is still green, wrap vine prior to application to prevent injury. If application is to be made during harvesting season, apply ORTHO 'GRAMOXONE' CL only after picking fruits off the ground. Do not allow animals to graze on treated areas.

PINEAPPLES For Kill of Annual Broadleaf Weeds and Grasses and Top Kill and Suppression of Perennials. Apply as a directed spray using 1 to 2 qts. in 100 to 200 gals. water per sprayed acre to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. water. Apply when weeds and grasses are succulent and new growth is from 1 to 6 inches high. Retreatment may be necessary on more mature weeds. Do not apply within 20 days of harvest.

SMALL FRUITS (Blackberries, Boysenberries, Raspberries, Blueberries) For Kill of Annual Broadleaf Weeds and Grasses and for Top Kill and Suppression of Perennial Weeds in the Interspaces and Around the Base of Bushes. Apply as a coarse directed spray at 1 to 2 qts. per sprayed acre in 50 to 200 gals. water to thoroughly wet the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. water. Apply before emergence of new canes or shoots as injury to those canes or shoots can result. Apply as a coarse spray to avoid drift injury from fine spray mist.

GRAIN SORGHUM Postemergence Directed Spray. For Kill of Emerged Crabgrass and Pigweed 3 inches or Less in Height. 1 to 2 pts. ORTHO 'GRAMOXONE' CL in 20 to 40 gals. water per sprayed acre. Use higher gallonage of water for larger weeds. For band applications, 1 pt. ORTHO 'GRAMOXONE' CL will cover 2 land or crop acres when a 20 inch band is treated in 40 inch rows. Treat when grain sorghum is naturally standing 12 inches tall or more. Add ORTHO X-77 Spreader (non-ionic) at 1 qt. per 100 gals. of spray. Do not exceed 30 psi, high pressure contributes to spray drift.

For best results, apply ORTHO 'GRAMOXONE' CL at 1 pt. per sprayed acre to grass and weeds less than 2 inches tall. Grass and weeds 2 to 3 inches tall should be sprayed with 2 pts. ORTHO 'GRAMOXONE' CL per sprayed acre. Use precision application equipment with spray nozzles mounted on skid shoes, offset shoes, fenders or cultivators with gauge wheels and adjusted so that only the lower 3 inches or less of the sorghum stalk is sprayed.

For best coverage on single rows, use 4 flat fan nozzles per row, 2 nozzles on each side of the row. The 2 forward nozzles should point forward and downward and rear nozzles should point to the rear and downward. For double row sorghum use one skid between the two rows with one nozzle spraying backward and downward.

Some sheath and lower leaf spotting and desiccation will occur. Basal spotting does not penetrate beneath and outer sheath. Degree of injury is related to precision of application and wind velocity. Do not spray under windy conditions.

FIELD CORN. Postemergence Directed Spray using ORTHO GRAMOXONE CL Alone or ORTHO GRAMOXONE CL + AATREX Tank Mix. For Control of Emerged Annual Broadleaf Weeds and Annual Grasses 10 to 40 inches tall. Apply 1 pt ORTHO GRAMOXONE CL per acre in 20 to 40 gals. of spray mix. Apply when corn plants are at least 10 inches tall. Corn plants shorter than 10 inches may be injured and not recover. Corn height measured from soil surface to top of whorl. Apply with directed spray application equipment. Arrange nozzles to spray no higher than the lower three inches of corn stalks to provide for maximum contact of weeds with minimum contact of corn plants to prevent excessive sheath and lower leaf spotting and desiccation. Add 1 qt ORTHO X-77 Spreader (non-ionic) per 100 gals. of spray. Do not mix with liquid fertilizer. For Control of Control of Weeds. For Control of Weeds 10 to 40 inches tall. Apply 1 pt ORTHO GRAMOXONE CL + AATREX. Add 1/2 to 1 1/4 lb. AATREX 80W or 1 to 2 pts. AATREX 4L in combination with 1 pt ORTHO GRAMOXONE CL per acre. Add AATREX 80W or AATREX 4L to spray tank first, mixing thoroughly in water. Then add ORTHO GRAMOXONE CL and surfactant. Constant agitation recommended at all times. Refer to AATREX labels for limitation and cautions.

Do not graze treated areas or feed treated forage to livestock. AATREX trademark of CIBA GEIGY.

CORN. For use in the USDA Witchweed eradication program to kill grassy weeds. Apply 1 qt ORTHO GRAMOXONE CL in 10 to 20 gals. spray per acre. Add 1 lb VISTIC per 100 gals. water. Apply as a spray directed onto the grassy weeds at the base of the corn stalks in the hills or rows. Initiate sprays in early July and repeat in early August if regrowth of grassy weeds occurs. Do not graze livestock in treated area. VISTIC Registered Trademark of Hercules Inc.

SOYBEANS. Postemergence Directed Spray. For control of seedling Johnsongrass, Crabgrass, Goosegrass, Brachiaria, Echinochloa spp. (Texas Millet) and pigweed less than 2 inches tall apply ORTHO GRAMOXONE CL at 4 fl oz (0.63 lb active) per acre. Use proportionately less for band treatment. For example on 40 inch rows and 16 inch band apply 1 gal ORTHO GRAMOXONE CL to 80 acres.

For 2 to 4 inch grass and 2 to 3 inch pigweed apply ORTHO GRAMOXONE CL at 8 fl oz (1.25 lb active) per acre. For example on 40 inch rows and 16 inch band apply 1 gal ORTHO GRAMOXONE CL to 40 acres. Soybeans should be 8 inches tall at first application. If needed, make second application 7 to 14 days later. Do not treat more than twice.

Apply 20 gals. spray mix per treated acre. Use proportionately less for band treatments. For example 8 gals. spray mix per 16 inch band on 40 inch rows.

For best coverage use 4 flat fan nozzles per row. 2 nozzles on each side of row. The two forward nozzles should point forward and downward and rear nozzles should point to the rear and downward. Do not exceed 30 psi, high pressure contributes to drift. Adjust nozzles to spray no higher than the lower three inches of the soybean plant. Do not treat if soybeans are below 8 inches tall, soybeans treated topically will be killed. Add ORTHO X-77 Spreader (non-ionic) at 1 to 2 qts. per 100 gals. of spray.

Do not graze treated areas or feed treated forage to livestock.

SUGARCANE. Directed Spray. For Control of Emerged Annual Broadleaf Weeds and Grasses and for Top Kill of Perennials. Apply as a shielded or directed spray when weeds are 2 to 6 inches high. Avoid contact with cane foliage to prevent serious leaf burn and reduced yields. Make a second and final application, if necessary, when new weed growth is 2 to 6 inches high. Add ORTHO X-77 Spreader (non-ionic) at 8 fl oz per 100 gals. spray mix.

DORMANT USE

RHUBARB. For Kill of Emerged Annual Broadleaf Weeds and Grasses and for Top Kill and Suppression of Emergent Perennial Weeds in Dormant Rhubarb. Apply 1 to 2 qts. per sprayed acre by ground application equipment. Use 50 to 150 gals. spray mix per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. spray mix. Use the higher rate with heavier weed infestations. Apply during the dormant season before buds in crown begin to grow. Do not make more than two applications per season.

NONCROP USES

NONCROP AREAS. Public Avenues, Electric Transmission Lines and Substations, Pipelines, Airports, Railroads, and Commercial Buildings. Stages, Roads, and Other Tall Grass Fence Lines and Sanitary Areas. For Control of Annual Broadleaf Weeds and Grasses and for Top Kill of Perennials. Apply 1 to 2 qts. per sprayed acre by ground application equipment. Use 50 to 150 gals. spray mix per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. spray mix. Use the higher rate with heavier weed infestations. Apply during the dormant season before buds in crown begin to grow. Do not make more than two applications per season.

Peppercorn, Plantain, Purslane, Red Clover, Shepherds Purse, Thistle, Wild Mustard, Wild Radish, Wild Oats, Blue Grass, Cheat Grass, and others. Apply 1 to 2 qts. per sprayed acre by ground application equipment. Use 50 to 150 gals. spray mix per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. spray mix. Use the higher rate with heavier weed infestations. Apply during the dormant season before buds in crown begin to grow. Do not make more than two applications per season.

RESIN SOAKING

RESIN SOAKING IN PINES. Control of Longleaf Shortleaf Slash Pine, Loblolly Shortleaf Slash Pine, and Longleaf Shortleaf Pine.

Tree Selection. Select trees to be treated from stands on sites not subject to periods of extreme drought stress as the desiccating effect of paraquat 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 paraquat not sooner than three years after a commercial thinning.

Application Methods. Apply ORTHO GRAMOXONE CL 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 Streak Cuts. This type of wound is made using a standard or rotary bark hach 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 paraquat 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 wide streak. Using 3 ml of a 2% or 4% paraquat solution will result in application of 60 or 120 mg paraquat per streak.

Tree Injection. Pressure injections of 1% to 4% paraquat 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 paraquat solution is applied per injection. Using 2% to 4% paraquat solution, this results in 36 to 144 mg paraquat 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 1/2 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% paraquat can be used. Lower concentrations (0.3% to 1%) are usually applied at higher volumes of 15 to 35 ml per tree, resulting in application of 45 to approximately 100 mg paraquat per tree. Using 2% to 4% solutions and applying 5 ml per single hole per tree results in application of 100 or 200 mg paraquat per tree. Bore hole applications in the range of 45 to 100 mg paraquat 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 non-drought conditions usually result in less severe pine beetle infestations and longer tree life.

Interval Between Treatment and Tree Harvest. The interval between application of paraquat and tree harvest should be a minimum of six months and preferably from 12 to 24 months. Intervals of over six months may not be possible under conditions of drought or serious pine beetle attacks, which may make early harvest necessary. The paraquat 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. Paraquat treatment can result in reduced stem growth during the interval between treatment and tree harvest.

Dilution Table for ORTHO 'GRAMOXONE' CL (2 lbs. cation per gallon)	
Concentration of Cation Desired (Wt./Wt. Basis)	To 1 Gal. of ORTHO 'GRAMOXONE' CL, 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



USE STRICTLY IN ACCORDANCE WITH DANGER STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

DO NOT get on skin, eyes or clothing
DO NOT inhale spray mist
WASH SPLASHES from skin and eyes immediately
REMOVE and wash contaminated clothing
WASH before eating, smoking and drinking
WEAR full face shield, rubber gloves and apron and waterproof footwear when handling or mixing concentrate
WEAR waterproof footwear and clothing when spraying or when contacting vegetation wet with spray
AVOID working in spray mist. If there is risk of exposure wear goggles and approved face mask capable of filtering spray droplets

IMPORTANT: The effect of swallowing Paraquat is far more severe than that which usually results from skin contact or inhalation of spray mist. No opportunity for mist or product to cause serious injury or death should arise when used in strict compliance with these rules but the opportunity may arise in case of gross violations so strictly follow all these rules as if your life depends on it.

ENVIRONMENTAL SAFETY CAUTIONS

WILDLIFE

This product is toxic to wildlife. Birds and other wildlife in treated areas may be killed. Do not apply directly to water.

DRIFT

ORTHO 'GRAMOXONE' CL 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.

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/CONTAINERS

Flush all spray equipment with water after use each day. ORTHO 'GRAMOXONE' CL 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.

WASH and destroy containers when empty — Never reuse.

DO NOT CONTAMINATE water when cleaning equipment or disposing of wastes.

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.

CONDITIONS OF SALE: 1. Chevron Chemical Company (Chevron) warrants that this material conforms to the chemical description on the label and is reasonably fit for use as directed hereon. Chevron neither makes, nor authorizes any agent or representative to make, any other warranty of FITNESS or of MERCHANTABILITY, guarantee or representation, express or implied, concerning this material.

2. Critical and unforeseeable factors beyond Chevron's control prevent it from eliminating all risks in connection with the use of chemicals. Such risks include, but are not limited to, damage to plants and crops to which the material is applied, lack of complete control, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit for the uses stated hereon and even though label directions are followed. Buyer and user acknowledge and assume all risks and liability (except those assumed by Chevron under 1 above) resulting from handling, storage and use of this material.

'GRAMOXONE' is a registered trademark of Plant Protection Limited, a subsidiary company of Imperial Chemical Industries Limited.

Chevron Chemical Company

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