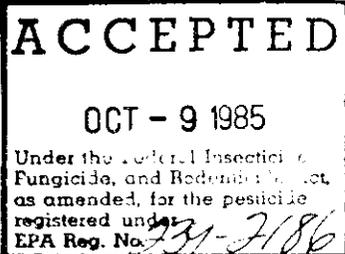


ORTHO Paraquat CL
EPA Reg. No. 239-2186
Submitted: July 22, 1985

COPY A

Easter Lilies (Field Grown): Preemergence - Apply 1 to 2 qts. per sprayed acre in 20 to 50 gals. of spray mix. Apply as a band treatment over the row or as a broadcast application prior to crop emergence. Do not apply more than twice per season. Lilies emerged at time of application will be severely injured. Add ORTHO X-77 Spreader (non-ionic) at 8 to 16 fl. oz./100 gals. of spray.



CONFIDENTIAL
PROPERTY OF
CHEVRON CHEMICAL COMPANY
UNTIL ACCEPTED BY EPA



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.

SUPPLEMENTAL PAMPHLET
DIRECTIONS FOR USE.



URTHO

PARAQUAT CL

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



DO NOT USE OR STORE IN OR AROUND THE HOME KEEP OUT OF REACH OF CHILDREN

READ WORKER SAFETY RULES ON LAST PANEL

Active Ingredient

Paraquat Chloride
(1,1-dimethyl-4,4-bipyridinium dichloride)

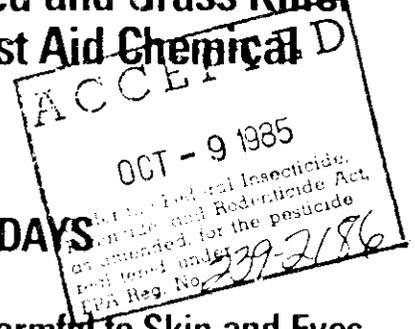
By Wt

29.1
70.9

Inert Ingredients

Contains 2 lbs. Paraquat Chloride per gallon

- 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.

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

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 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.

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 irritated skin may result in poisoning.

EYE CONTACT

IMMEDIATELY wash eyes with water for at least 15 minutes and get medical attention. Contact may cause eye injury.

INHALATION

IMMEDIATELY get away from spray mist. Exposure may cause irritation, nose bleeds and may lead to poisoning. Stop and check spray procedure. Follow Worker Safety Rules on last 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 ON BACK PANEL.

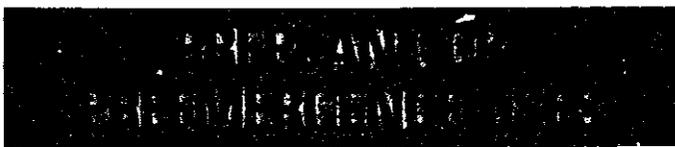
NOTE: Do not use Around Home Gardens, Schools, Recreational Parks or Playgrounds.

Do not combine ORTHO Paraquat 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 USE — For Kill of Emerged Annual Broad-leaf 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

ALFALFA, CORN, LETTUCE, MELONS, PEPPERS, SORGHUM, SUGAR BEETS, TOMATOES, SAFFLOWER AND SUNFLOWER: Preplant or Preemergence Treatment — 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 to 32 fl. 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.

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 to 32 fl. 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.

ASPARAGUS (Plantings Established 2 Years or More): Preemergence — Apply 1 to 2 qts. per sprayed acre in 25 to 100 gals. of spray mix. Apply as a band treatment over the row or as a broadcast application prior to emergence of the crop and/or after the last harvest. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. of spray mix. For residual control add 2 1/2 to 5 lbs. PRINCEP 80 W as a tank mix. Refer to PRINCEP 80 W label for specific recommendations and cautions. Crop plants emerged at time of application will be severely injured. Do not apply within 6 days of harvest. PRINCEP® Reg. TM of CIBA GEIGY.

BARLEY, WHEAT. Preplant or Preemergence Treatment — Apply 1 to 4 pts. 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 50 gals. diluted spray. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. 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.

BEANS (LIMA, SNAP), BROCCOLI, CABBAGE, CARROTS, CAULIFLOWER, CHINESE CABBAGE, COLLARDS, CUCURBITS (WATERMELON, CANTALOUPE, MUSKMELON, PUMPKIN, SQUASH, CUCUMBER), EGGPLANT, PEAS, TURNIP: Preplant and Preemergence Treatment — Apply 1 to 2 qts. per sprayed acre as a band treatment over the crop row, or as a broadcast treatment before, during or after planting — but before emergence of the crop. Use sufficient water to give thorough coverage. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. diluted spray. Use the higher rate with heavier weed infestations. 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.

COTTON. Preplant Treatment — **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 to 32 fl. oz. per 100 gals. spray.

copy →

ONIONS (Seeded) For Green or Dry Bulb Harvest: Preplant and Preemergence — Apply 1 to 2 qts. per sprayed acre as a broadcast treatment prior to, during or after planting, but before emergence of the crop. Use the high rate for heavier weed infestations and for control of Wild Oats. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. spray. Apply in 20 to 100 gals. water per acre. Allow maximum weed and grass emergence prior to treatment. Seeding 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. Maximum of one application at the 2 qts. per acre dosage. Do not apply within 60 days of harvest in California — Do not apply within 200 days of harvest.

POTATOES (Preplant or Preemergence Treatment) — Apply 1 to 2 pts. per acre as a broadcast application in 30 to 100 gals. water by ground application, or in 5 to 10 gals. by air. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. of diluted 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. Postemergence management should be performed as required to control subsequent weed and grass emergence.

FOR KILL OF EMERGED VOLUNTEER BARLEY (California Only) — Preplant in Cotton, Potato, Lettuce, Melon, Safflower, Sugar Beet and Tomato Fields. Apply 1/2 to 1 pt. per acre broadcast as a preplant treatment to preformed seedbeds. **Aerial Application** — Use 5 to 10 gals. water per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. diluted spray.

SEEDBED PREPARATION FOR ESTABLISHING GRASSES FOR SEED PRODUCTION. To Control Grasses and Broadleaved Weeds — Prepare 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 to 32 fl. 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.



Paraquat and Paraquat tank mixes may be applied in liquid nitrogen and/or complete liquid fertilizer solutions (follow label recommendations for crop involved) when 20 to 60 gals. 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 Paraquat, and a more rapid kill is desired, use the high Paraquat label rate.

CORN ONLY: For Kill of Existing Vegetation and Residual Weed Control Where Corn Will Be Planted Directly Into a Cover Crop, Established Sod or in Previous Crop Residues

Tank Mix with Atrazine: Apply 1 to 2 pts. ORTHO Paraquat CL plus 2 1/2 to 3 1/4 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 Paraquat and surfactant. Constant agitation recommended at all times.

Tank Mix with AATREX® 80 W and PRINCEP® 80 W:

Apply 1 to 2 pts. ORTHO Paraquat CL plus 1¼ to 2½ lbs. PRINCEP 80 W plus 1¼ to 2½ lbs. AATREX 80 W per sprayed acre prior to, during or after planting — but before crop emergence. Use the low rates of PRINCEP 80 W and AATREX 80 W 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 80 W to the spray tank while agitating, then add the PRINCEP 80 W, Paraquat and ORTHO X-77 Spreader (non-ionic). Continue agitation during application. Refer to the AATREX 80 W and PRINCEP 80 W labels for specific precautionary statements.

PRINCEP® and AATREX® — Reg. TMs of CIBA-GEIGY

Tank Mix with BLADEX® 80 W:

Apply 1 to 2 pts. ORTHO Paraquat CL plus 1½ 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 Paraquat 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® — Reg. TM of Shell Chemical Co

Tank Mix with LASSO® and Atrazine:

Apply 1 to 2 pts. ORTHO Paraquat CL (0.25 to 0.5 lb. active) plus 4 to 6 pts. LASSO (2.0 to 3.0 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, Paraquat 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® — Reg. TM of Monsanto Company

Tank Mix with DUAL® and AATREX®:

Apply 1 to 2 pts. ORTHO Paraquat CL per acre plus DUAL plus AATREX as a broadcast ground spray before, during, or after planting but before crop emergence. Apply in 20 to 60 gals. of diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 fl. oz. per 100 gals. of diluted spray. Refer to DUAL and AATREX labels for rates of application, directions, limitations, cautions and for a list of weeds controlled by preemergence activity of DUAL and AATREX. Add AATREX to spray tank first, mixing thoroughly in carrier. Then add DUAL, ORTHO Paraquat CL and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times.

DUAL® and AATREX® — Reg. TMs of CIBA-GEIGY

Tank Mix with DUAL® and BLADEX®:

Apply 2 pts. ORTHO Paraquat CL per acre plus DUAL plus BLADEX as a broadcast ground spray before, during or after planting but before crop emergence. Apply in 20 to 60 gals. of diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 1 to 2 qts. per 100 gals. of diluted spray. Refer to DUAL and BLADEX labels for rates of application, directions, limitations, cautions and for a list of weeds controlled by preemergence activity of DUAL and BLADEX. Add BLADEX to spray tank first, mixing thoroughly in carrier. Then add DUAL, ORTHO Paraquat CL and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times.

BLADEX® — Reg. TM of Shell Chemical Co

DUAL® — Reg. TM of CIBA-GEIGY

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 Paraquat 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 Paraquat 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.

Tank Mix with Atrazine and IGRAN® 80 W: (This tank mix should be used instead of Paraquat + Atrazine when better preemergence control of barnyardgrass, crabgrass and fall panicum is desired.)

Apply 1 to 2 pts. ORTHO Paraquat CL plus 1 to 2 lbs. Atrazine 80 W or 1.6 to 3.2 pts. Atrazine 4L plus 2 to 2½ 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 80 W on medium soils, and the higher rates on heavy soils. Refer to Atrazine and IGRAN 80 W labels for directions, limitations, cautions and for a list of weeds controlled by preemergence activity of Atrazine and IGRAN 80 W. 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 80 W to spray tank first, mixing thoroughly in carrier. Then add Atrazine, 2,4-D (if used), Paraquat and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times.

IGRAN® — Reg. TM of CIBA-GEIGY

SOYBEANS: Preplant or Preemergence Treatment: Apply 1 to 4 pts. of Paraquat 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 1.0 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 Systems

Tank Mix with LASSO® and LOROX®

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 and LOROX labels. Refer to the LASSO and LOROX 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 Paraquat 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 to the spray tank while agitating, then add the LASSO, ORTHO Paraquat CL and ORTHO X-77 Spreader (non-ionic). Continue agitation during application.

LASSO® — Reg. TM of Monsanto Company

LOROX® — Reg. TM of E. I. du Pont de Nemours & Co., Inc.

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

Tank Mix with LOROX®

Apply 1 pt. ORTHO Paraquat CL in this tank mixture as a band treatment over the crop row or as a broadcast treatment after planting — but before emergence of the crop. Refer to the LOROX labels for precautionary statements, rates which are dependent upon soil textures, directions, limitations and cautions. **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 Paraquat and LOROX needed per acre by dividing the band width by the spaces between crop rows and then multiplying the answer by the recommended broadcast rates. Continue agitation during application. This herbicide tank mixture WILL NOT CONTROL Rhizome Johnsongrass.

LOROX® — Reg. TM of E. I. du Pont de Nemours & Co., Inc.

Tank Mix with LASSO® and SENCOR®

For Contact Action on Emerged Weeds and Preemergence Control of Shikaree weed, Pigweed and Cocklebur, Foxtail and Crabgrass: (This tank mix should be used instead of Paraquat + LOROX or Paraquat + SENCOR when better preemergence control of crabgrass and foxtail is desired.) Apply 1 to 2 pts. ORTHO Paraquat CL in this tank mixture per acre as a preemergence broadcast ground spray. Refer to LASSO and SENCOR 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 Paraquat 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 to the spray tank first and mix thoroughly. Then add LASSO followed by ORTHO Paraquat 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* — Reg. TM of Monsanto Company.

SENCOR* — Reg. TM of the Parent Company of Farbenfabriken Bayer, GmbH, Leverkusen.

Tank Mix with PROWL and SENCOR or LEXONE and or LOROX (Except CA):

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.

Apply 1 to 4 pts. ORTHO Paraquat CL per acre plus PROWL plus SENCOR or LEXONE and or LOROX as a broadcast ground spray before, during, or no more than 2 days after planting (before crop emergence). The higher Paraquat rates will be required under dry conditions or when weeds are 3-6 inches tall. Apply in 20 to 60 gals. of diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 2 to 4 pts. per 100 gals. of diluted spray. Refer to PROWL, SENCOR, LEXONE and LOROX labels for rates of application, directions, limitations, cautions and for a list of weeds controlled preemergence by each herbicide. Fill spray tank one-half to three-quarters full with water. Add SENCOR or LEXONE or LOROX to spray tank first, mixing thoroughly in water. Refer to respective labels for mixing directions. Then add PROWL, ORTHO Paraquat CL and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times.

PROWL* — Reg. TM of American Cyanamid Company.

SENCOR* — Reg. TM of the Parent Company of Farbenfabriken Bayer, GmbH, Leverkusen.

LEXONE* and LOROX* — Reg. TMs of E. I. du Pont de Nemours & Co., Inc.

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 Paraquat + 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 Paraquat CL in this tank mixture per acre as a broadcast ground spray before, during or after planting but before emergence of the crop. Use the 2 pt. rate of ORTHO Paraquat 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 label(s) 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 labels so application is not made directly onto the soybean seed. SENCOR* — Reg. TM 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 Paraquat + LASSO + SENCOR, Paraquat + SENCOR or Paraquat + LOROX when longer residual control of foxtail and fall panicum is desired.)

Apply 1 qt. ORTHO Paraquat CL in this tank mixture per acre at planting or within 7 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 to 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 or LEXONE to the spray tank first and mix thoroughly. Then add SURFLAN followed by ORTHO Paraquat 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* — Reg. TM of Elanco Products Company.

SENCOR* — Reg. TM of the Parent Company of Farbenfabriken Bayer, GmbH, Leverkusen.

LEXONE* — Reg. TM of E. I. du Pont de Nemours & Co., Inc.

Tank Mix with DUAL and SENCOR or LEXONE or LOROX:

Apply 1 to 2 pts. ORTHO Paraquat CL per acre plus DUAL plus SENCOR or LEXONE or LOROX as a broadcast ground spray before, during, or after planting but before crop emergence. Apply in 20 to 60 gals. of diluted spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 fl. oz. per 100 gals. of diluted spray. Refer to DUAL, SENCOR, LEXONE and LOROX labels for rates of appli-

cation, directions, limitations, cautions, and for a list of weeds controlled by preemergence activity of DUAL, SENCOR, LEXONE and LOROX. Add SENCOR or LEXONE or LOROX to spray tank first, mixing thoroughly in carrier. Then add DUAL, ORTHO Paraquat CL and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times.

DUAL* — Reg. TM of CIBA-GEIGY.

SENCOR* — Reg. TM of the Parent Company of Farbenfabriken Bayer, GmbH, Leverkusen.

LEXONE* and LOROX* — Reg. TMs of E. I. du Pont de Nemours & Co., Inc.

WHEAT CHEMICAL FALLOW

For Desiccation of Most Emerged Annual Broadleaf Weeds and Grasses and Suppression of Many Emerged Perennial Weeds During the Fallow Period(s) of the Wheat-Fallow, Wheat-Annual Crop-Fallow, Wheat-Annual Crop and Continuous Wheat Cropping Systems — Apply 1 to 2 pts. ORTHO Paraquat CL per acre as a broadcast spray. **Aerial Application** — Apply 5 to 10 gals. spray mix per acre. **Ground Application** — Use 20 to 60 gals. 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. Add ORTHO X-77 Spreader (non-ionic) at 1 to 4 pts. per 100 gals. of diluted spray. Use only clean water or nitrogen solutions as a carrier. Weeds and grasses emerging after application and regrowth from perennial weeds will not be controlled. Weeds taller than 6 inches at application may not be controlled. The addition of 2,4-D or BANVEL* may aid in the suppression of perennial broadleaf weeds and annual broadleaf weeds that have made excessive growth before application. Refer to 2,4-D and BANVEL labels for directions, limitations and cautions. For extended weed control during the fallow period, tank mix with a registered residual herbicide or herbicide combination. Refer to residual herbicide label(s) for directions, limitations, cautions, and for a list of weeds controlled by preemergence activity of the residual herbicide(s). Add wettable powder herbicide(s) to spray tank first, mixing thoroughly in carrier. Then add liquid herbicide(s), ORTHO Paraquat CL, and ORTHO X-77 Spreader (non-ionic). Constant agitation recommended at all times.

BANVEL* — Reg. TM of Velsicol Chemical Corp.



PASTURE AND RANGE RESEEDING: Suppression of Existing Sod and Undesirable Emerged Broadleaf Weeds and Grasses to Permit Pasture and Range Reseeding — Apply recommended rates in water to make 18 to 75 gals. diluted mix per sprayed acre. Add 8 to 32 fl. oz. ORTHO X-77 Spreader (non-ionic) per 100 gals. spray. Apply broadcast or in bands over the drill row prior to, or at time of seeding desired grasses and/or forage legumes. Apply as a band treatment when recovery of the sprayed sod is desired, such as in the case with desirable fescue grass. Apply as a broadcast treatment when existing grass species is undesirable and should be totally suppressed, such as in the case with run-down bluegrass sod.

West of Cascade and Sierra Nevada Mountains — 1 to 2 pts. per sprayed acre prior to, or at time of seeding grasses such as Hardinggrass and Palestine Orchardgrass. Apply in October through December after first fall rains and after weeds have emerged and sod has started new growth. For best seeding results, apply on moderate to heavily grazed areas. Do not use in areas with heavy sod and weed growth. Do not pasture treated areas until growth of newly planted seedlings is 3 to 6 inches high.

East of Rocky Mountains — 1 to 2 pts. per sprayed acre during the growing season. Use the 2 pts. rate to suppress vigorous and coarse sod species such as Bromegrass. See specific directions for use in the South and Southeast for suppression of Bermudagrass or Bahiagrass sods. Apply prior to, or at time of seeding grasses or forage legumes such as alfalfa, clover and birds-foot trefoil. Apply only to grazed or mowed pastures which are not more than 2 to 3 inches in height at time of treatment. Do not graze treated areas until the newly planted seedlings have reached their recommended grazing height. Under good seeding emergence and growing conditions, allow a minimum of one month between treatment and first grazing. Seeding grasses, and forage legumes should be at least 6" tall. Sudangrass must be 18" tall and Sorghum sudan 24" tall at first grazing. Under late fall or winter conditions, it may take 3 to 5 months for seeded grasses and/or legumes to reach recommended grazing height.

South and Southeast — Bermudagrass or Bahiagrass Sod — Late Summer or Early Fall Application for Sod Suppression when Seeding Winter Annuals — Apply 1 pt. per acre in 20 to 30 gals. water in late summer or early fall to sod that does not exceed 3 inches in height. Apply prior to, or at time of

seeding winter annuals. Add 1 qt. ORTHO X-77 Spreader (non-ionic) per 100 gals. spray. Do not pasture in treated areas until 60 days after treatment or until winter annual seedlings are 9 inches tall.

BERMUDAGRASS PASTURES: For the Suppression of Emerged Annual Broadleaf and Grassy Weeds including Little Barley, Bromes, Buttercup and Carolina Geranium in Dormant Bermudagrass Pastures — Apply 1 pt. per acre in 20 to 30 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.



ALFALFA, CLOVER — Washington, Oregon, Colorado, Idaho, Montana, Utah, Nevada, Wyoming and California (counties of Del Norte, Siskiyou, Modoc, Shasta, Lassen, Plumas, Sierra and Nevada) — Apply for Desiccation of Ryegrass, Bluegrass, Cheatgrass, Dogfennel, Chickweed and Tansy Mustard in Dormant Alfalfa and Clover, Except Annual Clover — Apply 2 to 3 pts. per acre (use high rate for cheatgrass) in 20 to 100 gals. spray mix by ground as a broadcast application. Apply by air in 5 to 10 gals. spray mix per acre. Apply to established stands after the last fall cutting when the crop is dormant but before spring growth starts. Do not apply if regrowth following the last fall cutting is more than 2" tall. Alfalfa and clover foliage present at the time of application will be burned. Apply when the broadleaved weeds and grasses are succulent and growth is from 1" to 6" tall. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz./100 gals. spray mix. Do not pasture animals in treated fields before first cutting. Do not graze, cut or harvest within 60 days of application for clover or 42 days of application for alfalfa. Do not apply more than once per season.

ALFALFA: For use in states east of the Rockies and north of the southern borders of Colorado, Kansas, Missouri, Kentucky and Virginia — For control of Bluegrass, Chickweed, Henbit and Downy Brome and suppression of perennial grasses including Orchard Grass, Timothy and Smooth Brome. Apply 2 to 3 pts. per acre in 20 to 60 gals. water by ground equipment as a broadcast application. Apply by air in 5 to 10 gals. spray mix per acre. Use 3 pt. rate for kill or suppression of harrier to control weeds and grasses, such as the perennial species. Do not apply if fall regrowth following the last fall cutting is more than 6" tall. Apply to well established stands (at least one year old) after the last fall cutting when the crop is dormant. Before spring growth reaches one inch. Alfalfa foliage present at the time of application will be burned which may reduce the yield of the first cutting. Weeds and grasses should be succulent and growing at the time of application. Weeds that germinate after application will not be controlled. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz./100 gals. spray mix. Do not graze, cut or harvest within 60 days of application. Do not apply more than once per season.

Tank Mix with PRINCEP 80 W Simazine Weed Killer
ALFALFA only — For control of Filaree, Jim Hill Mustard and Shepherdspurse, and for improved control of Bluegrass, Cheatgrass, Chickweed and Tansy Mustard. Apply 1 to 3 pts. ORTHO Paraquat Cl. plus 1 to 2 lbs. PRINCEP 80 W in 20 to 100 gals. spray mix per acre with ground equipment or 5 to 10 gals. spray mix per acre by air. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. spray mix. Use the 1 pt. rate of Paraquat when weeds and grasses are less than 4" tall. Refer to PRINCEP 80 W label for cautions, limitations and recommended rates for specific soil types. Do not pasture animals in treated fields before first cutting. Do not graze, cut or harvest within 90 days of application. Do not apply more than once per season. PRINCEP — Reg. TM of CIBA GEIGY.

ALFALFA only — Suppression and Control of Broadleaf Weeds and Grasses in New Alfalfa Seedlings Grown for Hay (California Only)

For Control of:	Use Rate Directions — Pints/Acre	
	For Suppression	For Control
Spikeweed (4 in. tall or less)	1/2 pt.	1 to 2 pts.
Volunteer Small Grain (8 in. tall or less)	1/2 to 1 pt.	2 pts.
Fiddleneck (6 in. tall or less)	1/2 to 1 pt.	2 pts.
Shepherdspurse	1 to 2 pts.	
Annual Bluegrass		1 to 2 pts.
Chickweed		1 to 2 pts.
Red Maids (6 in. tall or less)		1 to 2 pts.

Apply in 25 to 50 gals. water per acre by ground or in 5 to 10 gals. by air as a broadcast application during late winter or early spring. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz./100 gals. spray mix. Do not use the 1/2 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. Alfalfa foliage present at time of application will be burned. Do not pasture animals in treated fields before first cutting. Do not graze, cut or harvest within 70 days of application. Do not apply more than once during the first growing season. **CAUTION: SEEDLING ALFALFA STANDS WILL BE REDUCED AND REPLANTING MAY BE NECESSARY. NOT RECOMMENDED IN SEEDLING ALFALFA GROWN FOR SEED.**



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 AID IN DEFOLIATION AND OPENING OF MATURE BOLLS OF WESTERN COTTON (ARIZONA, CALIFORNIA) First Application — 1/2 to 1/2 pt. Paraquat plus 1 to 2 pts. phosphate defoliant or 1 to 2 gals. chlorate defoliant per acre. Use higher dosages on rank cotton. (Caution: Do not use more than 1/2 pt. Paraquat in initial application, as excessive desiccation may occur.) Apply when 60% or more of the bolls are open and remaining bolls to be harvested are mature. Development of immature bolls will be inhibited. Do not use more than 4.0 lbs. actual sodium chlorate per acre or more than 1.5 lbs. actual phosphate type defoliants per acre.

Second Application — To aid in Opening of Mature Bolls at Second or Later Harvest Aid Treatment and to Desiccate Green Leaves — 1/2 to 1 pt. Paraquat per acre (in desert cotton areas or on rank vigorous cotton, use the 1 pt. rate only) or 1/2 to 1 pt. Paraquat plus 1 1/2 to 2 pts. phosphate defoliant or 1 1/2 to 2 gals. chlorate defoliant. Apply when 75% 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.

AERIAL APPLICATION — Apply 3 to 10 gals. spray mix per acre. Use ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. 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 8 to 32 fl. oz. 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 foliage or gin trash. 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 8 to 32 fl. oz. 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 quick vine kill is desired or 2 applications of 1 pt. when vine growth is dense. Apply in 50 to 100 gals. water per acre with thorough coverage. Add 8 to 32 fl. oz. of ORTHO X-77 Spreader (non-ionic) per 100 gals. water. Begin application when leaves are beginning to turn yellow. In potato foliage and drought stressed potato foliage are tolerant to Paraquat and desiccation will not be complete. Do not make more than 2 applications with a minimum of 5 days between applications. Do not apply Paraquat 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 Paraquat 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.

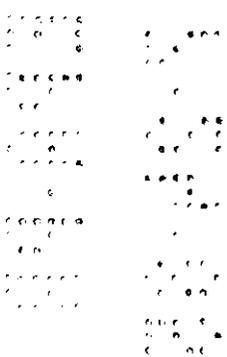
SOYBEAN HARVEST AID—Apply 1/2 to 1 pt. per acre on Broadleaf Weeds and Grasses. Use high rate on Cocklebur. Add 1 qt. ORTHO X-77 Spreader (non-ionic) per 100 gals. spray. **Aerial Application**—2 to 5 gals. spray per acre. **Ground Application**—20 to 40 gals. spray per acre. **Indeterminate Varieties:** 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 left on 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 (OILSEED VARIETIES ONLY)—For Desiccation of Sunflower Plants and Broadleaf Weeds and Grasses to Facilitate Harvesting: Apply 1 to 2 pts. ORTHO Paraquat 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 seed moisture is 35 percent or lower). For many varieties, this corresponds to the time when the back of the heads are yellow and the bracts are turning brown. 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.

SUGARCANE—Preharvest Crop Desiccation (Florida and Texas Only) Apply 1/2 to 1 pt. per acre. Apply to mature plant or stubble cane using 4 to 10 gals. water per acre. Use higher rate under cool, cloudy weather conditions. ORTHO X-77 Spreader (non-ionic) should be added to all sprays at the rate of 1 pt. per 100 gals. water. Apply with aircraft sprayer 3 to 14 days before burning and harvest. For rapid results, apply when weather is clear and warm. Apply as a coarse spray at low pressure when air is calm to prevent spray drift.



ORCHARDS, VINEYARDS, WINDBREAK, SHADE AND ORNAMENTAL TREES: For kill of annual broadleaf weeds and grasses and for top kill and suppression of perennials and green suckers under Filbert trees, in the interspaces and around the base of trees and vines—Acerola, Almonds, Apples, Apricots, Avocados, Bananas, Cherries, Citrus, Coffee, Figs, Filberts, Grapes, Kiwifruit, Macadamia Nuts, Nectarines, Olives, Papayas, Peaches, Pears, Pecans, Pistachios, 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 fl. oz. per 100 gals. 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. For Kiwifruit, do not treat more than 3 times per year and do not apply within 14 days of harvest. For Pistachios, do not harvest within 7 days of treatment and do not exceed two applications after shells split.



ALMONDS, GRAPES AND WALNUTS (California Only); ORANGES (California and Florida Only); SOUR CHERRIES (Michigan Only); APPLES, PEACHES, PEARS: Tank Mix With PRINCEP® 80 W Simazine Weed Killer—For Top Kill and Residual Control of Annual Broadleaf Weeds and Grasses and for Suppression of Perennial Weeds—For broadcast application apply 1 to 2 qts. ORTHO Paraquat CL per acre and PRINCEP 80 W at the following rates per acre:

Crop	Rate PRINCEP 80 W Per Sprayed Acre	Precautions
Almonds and Peaches (California Only)	1 x 2 1/2 lbs. in 2 1/4 ft. band on each side of tree row 1 x 1 1/2 lbs. provides residual control of burclover, common chickweed, wild mustard and shepherdspurse	Do not treat trees established less than 3 years. Do not treat Mission variety of almonds. Do not apply to almond trees propagated on plum root stalks. Do not replant almonds or peaches in treated soil. Do not apply on gravelly sand or loamy sand soil or on soil with less than 1% organic matter. Do not treat areas where water will accumulate.
Apples, Pears, Sour Cherries (Michigan Only), Walnuts (California Only)	2 - 5 lbs.	Do not apply to sandy soil. Leveling and furrowing operations after application will lessen effectiveness of weed control.
Peaches (Arkansas, Louisiana, Missouri, Oklahoma, Texas and states East of the Mississippi River)	2 1/2 lbs.	Do not apply to sandy or gravelly soil.
Grapes (California Only)	2 - 6 lbs.	Do not use in vineyards established less than 3 years.
Oranges (California Only), Except Imperial, Santa Fe and Palo Verde Varieties (Florida Only), Bedded	2 - 5 lbs.	Do not use in nurseries. To avoid possible injury, do not apply to trees under stress from freeze damage for one year following the freeze.
	4 lbs.	

Use the low rate of PRINCEP 80 W on coarse textured soils and low organic matter soils. Use the high rate on fine textured soils and high organic matter soils. Apply as a tank mix in 50 to 200 gals. of water per acre to the orchard floor avoiding contact with fruit, foliage or stems. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. diluted spray. Apply when weeds and grasses are succulent and the new growth is from 1 to 6 inches tall.

For band applications or spot applications around trees, reduce the broadcast rate and the amount of water in proportion to the area actually sprayed.

Make only one application per year. Apply in orchards where trees have been established one year or more. Do not spray under windy conditions and use a shield for young trees. Do not apply to almonds and walnuts when nuts are on the ground during the harvest period. Do not allow animals to graze treated areas.

Refer to the PRINCEP 80 W Simazine label for general information, caution and warning statements.
PRINCEP® Reg. TM of CIBA GEIGY

HOPS (Washington, Oregon and Idaho Only). For Kill of Annual Bluegrass, Ryegrass, Barnyardgrass, Pigweed and Chickweed—Apply as a directed spray in the interspaces and around the base of hop plantings using 1 qt. in 20 to 100 gals. water per acre to thoroughly cover weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. spray mix. Do not apply around hop vines less than 10 ft. tall. Apply when weeds and grasses are succulent and growth is from 1 to 6 inches tall. Retreatment or spot treatment may be necessary. **For Suckering and Stripping (Cascade, Yakima Cluster and Bullion Varieties Only):** Spray only basal 2 ft. of vines using 1 qt. in 20 to 100 gals. water per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. spray mix. Do not apply to hop vines less than 10 ft. tall. Repeat as necessary. **CAUTION:** Do not apply more than 3 times per season. Do not apply within 14 days of harvest. Do not allow spray to contact green stems, foliage, flowers or cones, as injury may result. Do not allow animals to graze in treated hopyards. Hop vine refuse and silage may be fed to livestock.

GUAVA—Apply as directed spray at 2 qts. per sprayed acre in 50 to 200 gals. to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. 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. to thoroughly cover the weeds and grasses. Add ORTHO X-77 Spreader (non-ionic) at 8 to 32 fl. oz. per 100 gals. 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 Paraquat 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 to 32 fl. oz. per 100 gals. 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 to 32 fl. 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.

STRAWBERRIES: Postemergence Directed Spray — For Control of Emerged Annual Broadleaf Weeds and Grasses and for Top Kill and Suppression of Emerged Perennial Weeds Between the Rows After Crop Plant Emergence or Establishment — Apply 1 qt. ORTHO Paraquat CL per sprayed acre in 20 to 60 gals. spray mix. Apply with conventional ground equipment directing spray between the rows and using shields to prevent spray contact with crop plants. Add ORTHO X-77 Spreader (non-ionic) at 8 fl. oz. per 100 gals. spray mix. For best results, apply when weeds and grasses are succulent and weed growth is 1 to 6 inches high. Weeds and grasses emerging after application will not be controlled. Do not allow spray to contact strawberry plants as injury or excessive residues may result. Do not apply more than 3 times per crop season. Do not apply within 21 days of harvest. Do not graze livestock in treated areas.

GRAIN SORGHUM, Postemergence Directed Spray — For Kill of Emerged Crabgrass and Pigweed 3 Inches or Less in Height — 1 to 2 pts. ORTHO Paraquat CL in 20 to 40 gals. water per sprayed acre. Use higher gallonage or water for larger weeds. For band applications, 1 pt. ORTHO Paraquat 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 100 psi, high pressure contributes to spray drift.

For best results, apply ORTHO Paraquat 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 Paraquat CL per sprayed acre. Use precision application equipment with spray nozzles mounted on skid shoes, oiling 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 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 Paraquat CL Alone or ORTHO Paraquat CL + Atrazine Tank Mix - For Control of Emerged Annual Broadleaf Weeds and Annual Grasses less than 4 inches tall — Apply 1 qt. ORTHO Paraquat 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 Improved Control of Weeds, Especially Broadleaves, Tank Mix Paraquat and AATREX** — Add 1/4 to 1/2 lb. AATREX 80W or 1 to 2 pts. AATREX 4L in combination with 1 pt. ORTHO Paraquat CL per acre. Add

AATREX 80W or AATREX 4L to spray tank first, mixing thoroughly in water. Then add Paraquat 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® - Reg. TM of CIBA-GEIGY

CORN — For use in the USDA White-weed eradication program to kill grassy weeds. Apply 1 qt. ORTHO Paraquat CL in 10 to 20 gals. spray per acre. Add ORTHO X-77 Spreader (non-ionic) at 8 fl. oz. per 100 gals. spray mix. Apply as a spray directed onto the grassy weeds at the base of the corn stalks in the hills or row. Initiate sprays in early July and repeat in early August if regrowth of grassy weeds occurs. Do not graze livestock in treated area.

SOYBEANS Postemergence Directed Spray — For control of seedling Johnsongrass, Crabgrass, Goosegrass, Bracharia, Echinochloa spp. (Texas Millet) and pigweed less than 2 inches tall apply ORTHO Paraquat 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 Paraquat CL to 80 acres.

For 2 to 4 inch grass and 2 to 3 inch pigweed apply ORTHO Paraquat 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 Paraquat 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 typically 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 Kill 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.

Florida Only — Apply 1 qt. in 50 to 100 gals. of water per acre. For optimum results, apply early in the season (March-April) when weeds are small. Do not apply after June 1st as cane growth may be stunted and yields reduced.

Hawaii Only — Apply 1 qt. in 20 to 200 gals. of water per acre. Do not apply after cane rows have closed in.

Louisiana Only — Apply 1 to 1 qt. in 20 to 200 gals. of water per acre. For tiller control, apply when tillers are less than 18" high. Use the higher rate of Paraquat with heavier weed infestations or tiller growth. Do not apply within 30 days of harvest.

TOMATOES AND PEPPERS (Middle Atlantic, Southeast, South Central Regions and Southwest to the Western Boundary of Texas): Postemergence Directed Spray — For Kill of Emerged Annual Broadleaf Weeds and Grasses and for Top Kill and Suppression of Emerged Perennial Weeds between Plastic Mulch Covered Rows after Crop Plant Emergence or Establishment — Apply as directed spray using 1 qt. per sprayed acre in 20 to 100 gals. spray mix. Apply with conventional ground equipment directing spray between the rows and using shields to prevent spray contact with crop plants. Add ORTHO X-77 Spreader (non-ionic) at 8 fl. oz. per 100 gals. spray mix. Apply when weeds and grasses are succulent and weed growth is 1 to 6 inches high. Weeds and grasses emerging after application will not be controlled. Do not allow spray to contact tomato or pepper plants as injury or excessive residues may result. Do not apply more than 3 applications per crop season. Do not allow animals to graze on treated areas.



PEPPERMINT, SPEARMINT, For Suppression of Weeds Such as Italian Rye grass, Prickly Lettuce, Groundsel, Chickweed, Downy Brome and Blue grasses During the Dormant Season — Apply 1/2 to 3 pts. per acre as a broadcast spray in 25 to 65 gals. spray mix. Use the higher rate with heavier weed infestations. Add ORTHO X-77 Spreader (non-ionic) at 8 fl. oz. per 100

gals. spray mix. Apply when peppermint or spearmint is dormant and before spring growth begins. Do not apply to weeds which are greater than 6" tall. Do not apply more than 3 pts. per acre per dormant season as injury or excessive residues may result. **For Improved Contact Activity and Residual Control of Italian Ryegrass, Prickly Lettuce and Groundsel**—Add 1 to 2 lbs. of SINBAR (Terbacil) Weed Killer as a tank mix. Use the higher tank mix rate with heavier weed infestations. Apply tank mix treatment no more than once per season. Use a minimum of 25 gals. spray mix per acre. Refer to the SINBAR label for specific recommendations and cautions.
SINBAR® Reg. TM of E. I. du Pont de Nemours & Co., Inc.

RHUBARB: For Kill of Emerged Annual Broadleaved Weeds and Grasses and for Top Kill and Suppression of Emerged 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 to 32 fl. 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 AREAS (Public Airports, Electric Transformer Stations and Substations, Pipeline Pumping Stations, Around Commercial Buildings, Storage Yards and Other Installations, Fence Lines, and Similar Noncrop Areas)—For the Control of Annual Broadleaved Weeds and Grasses (such as Burclover, Chickweed, Filaree, Groundsel, Nettle, Pigweed, Plantain, Puncturevine, Purslane, Red Clover, Shepherdspurse, Thistle, Wild Mustard, Wild Radish, Wild Oats, Blue Grass, Cheat Grass, Crabgrass) and Top Kill and Suppression of Perennial Weeds (such as Bermudagrass, Johnsongrass, and Morningglory) —1 qt. per acre. Apply for full coverage and thorough weed contact (50 to 100 gals. diluted spray per acre). Best results are obtained when applications are made to young, succulent weeds and grasses. Mature, woody weeds are less susceptible. Repeat as needed. Add ORTHO X-77 Spreader (non-ionic) at 8 oz. per 100 gals. Paraquat is compatible with many residual herbicides. Avoid spray contact with foliage or fruit of food crops and ornamentals.



RESIN SOAKING IN 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 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 Directions—Apply ORTHO Paraquat 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 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 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, 2 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, not 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%) 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 Paraquat CL (2 lbs. cation per gallon) To 1 Gal. of ORTHO Paraquat CL, add the following No. Gals. of Water:

Concentration of Cation Desired (Wt. Wt. Basis)	No. Gals. of Water
0.2%	118.8
0.5%	46.8
1.0%	27.9
2.0%	10.9
3.0%	6.9
4.0%	4.9
5.0%	3.7

REENTRY STATEMENTS

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.

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

AVOID working in spray mist. If there is 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 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 Paraquat 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 Paraquat 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.

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 day or night (415) 233-3737.

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

See Container Label For Container Disposal Directions.

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.

Chevron Chemical Company

Ortho Agricultural Chemicals Division

San Francisco CA 94120-7144 Richmond CA 94804-6036

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