

DRAFT
(Front Cover of 2 1/2 gal. and Bulk)
(Master Booklets)

Princep® 4L

HERBICIDE

For weed control in certain crops and ornamental plantings

Active Ingredient:

Simazine: 2-chloro-4,6-bis(ethylamino)-s-triazine41.9%

Other Ingredients:58.1%

Total:100.0%

Princep 4L contains 4 lbs. active ingredient per gallon.

EPA Reg. No. 100-526

EPA Est. 100-LA-1

2.5 GALLONS
U.S. Standard Measure

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

NCP 526A-L32W 0500

ACCEPTED
JUL 31 2000
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 100-526

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or viton
- Shoes plus socks

Annual Weeds Controlled

- | | |
|------------------------------------|---------------------------------------|
| alyssum | common lambsquarters |
| annual bluegrass | nightshade |
| annual morningglory | pepperweed |
| annual ryegrass | pigweed |
| barnyardgrass (watergrass) | pineappleweed |
| burclover | prickly lettuce |
| carelessweed | common purslane |
| carpetweed | ragweed |
| common chickweed | rattail fescue |
| crabgrass (<i>Digitaria</i> spp.) | redmaids |
| downy brome (cheatgrass) | Russian thistle |
| fall panicum | shepherdspurse |
| fiddleneck | signalgrass (<i>Brachiaria</i> spp.) |
| filaree | silver hairgrass |
| fireweed | smartweed |
| fivehook bassia | spanishneedles |
| Flora's paintbrush | speedwell |
| Florida pusley | tansymustard |
| foxtails | wild mustard |
| goosegrass | wild oats |
| groundsel | witchgrass |
| henbit | yellow flower pepperweed |
| jungerice | |
| knawel (German moss) | |

Following many years of continuous use of this product and chemically related products, biotypes of some of the weeds listed on this label have been reported which cannot be effectively controlled by this and related herbicides. Where this is known or suspected, and weeds controlled by this product are expected to be present along with resistant biotypes, we recommend the use of this product in registered combinations or in sequence with other registered herbicides which are not triazines. If only resistant biotypes are expected to be present, use a registered non-triazine herbicide. Consult with your State Agricultural Extension Service for specific recommendations.

Application Procedures

Ground application: Use conventional ground sprayers equipped with nozzles that provide accurate and uniform application. Be certain that nozzles are uniformly spaced and the same size. Calibrate sprayer before use and recalibrate at the start of each season and when changing carriers. Unless otherwise specified, use a minimum of 20 gals. of spray mixture per acre.



Use a pump with capacity to: (1) maintain 35-40 psi at nozzles, (2) provide sufficient agitation in tank to keep mixture in suspension, and (3) to provide a minimum of 20% bypass at all times. Use centrifugal pumps which provide propeller shear action for dispersing and mixing this product. The pump should provide a minimum of 10 gals./minute/100 gal. tank size circulated through a correctly positioned sparger tube or jets.

Use screens to protect the pump and to prevent nozzles from clogging. Screens placed on the suction side of the pump should be 16-mesh or coarser. Do not place a screen in the recirculation line. Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles. Check nozzle manufacturer's recommendations.

For band applications, calculate amount to be applied per acre as follows:

$$\frac{\text{band width in inches}}{\text{row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

Aerial application: Use aerial application only where specified in the use directions. Apply in a minimum of 1 gal. of water for each qt. of Princep 4L applied per acre. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

Mixing procedures – all uses: (1) Be sure sprayer is clean and not contaminated with any other materials, or crop injury or sprayer clogging may result. (2) Fill tank 1/4 full with clean water, nitrogen solution, or complete fluid fertilizer. (3) Start agitation. (4) Be certain that the agitation system is working properly and creates a rippling or rolling action on the liquid surface. (5) If any dry herbicides are being tank-mixed, add them to the tank and allow them to become thoroughly suspended. (6) Then pour Princep 4L directly from jug into tank. (7) Continue filling tank until 90% full. Increase agitation if necessary to maintain surface action. (8) Add other liquid tank-mix herbicide(s) after this product is thoroughly suspended. (9) Finish filling tank. Maintain agitation to avoid separation of materials. (10) Empty tank as completely as possible before refilling to prevent buildup of emulsifiable concentrate residue from possible tank-mix herbicides. (11) If an emulsifiable concentrate film starts to build up in tank, drain it and clean with strong detergent solution or solvent. (12) Clean sprayer thoroughly immediately after use by flushing system with water containing a detergent.

Compatibility test: To determine the tank-mix compatibility of Princep 4L with liquid fertilizer, crop oil, spreaders, or other recommended pesticides, use this test method. Nitrogen solutions or complete fluid fertilizers may replace all or part of the water in the spray in corn. Since liquid fertilizers

can vary, even within the same analysis, check compatibility each time before use. Be especially careful when using **complete** suspension or fluid fertilizers, as serious compatibility problems are more apt to occur. Commercial application equipment may improve compatibility in some instances. Check compatibility using this procedure:

1. Add 1 pt. of fertilizer to each of 2 one-qt. glass jars with tight lids.
2. To **one** of the jars, add 1/4 tsp. of a compatibility agent approved for this use (1/4 tsp. is equivalent to 2 pts./100 gals. spray). Cap and shake until mixed. Examples of compatibility agents include Compex® and Unite®.
3. To **both** jars, add the appropriate amount of herbicide(s). If more than 1 herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, cap and shake until thoroughly mixed. The appropriate amount of herbicides for this test follows (assuming a spray volume of 25 gals./A):

Dry herbicides: For each pound per acre add 1.5 teaspoons to each jar. Fluff up wettable powder products before measuring.

Liquid herbicides: For each pint per acre add 0.5 teaspoon to each jar.

For a spray volume other than 25 gals./A, change the teaspoons added to each jar as follows:

$$\frac{25 \text{ gals.} \times \text{no. teaspoons given above}}{\text{desired gals. spray volume per acre}} = \text{teaspoons to add to each jar}$$

4. After adding all ingredients, put lids on and tighten. Shake jars vigorously one minute. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, grease, gels, medium to heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be remixed readily, the mixture can probably be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry herbicide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If still incompatible, do not use the materials mixed in the same spray tank.

Perennial Crop Replanting

If replanting perennial crops, do not apply Princep 4L in the year preceding planting these crops, unless otherwise stated on this label, or crop injury may occur.

FRUIT AND NUT CROPS

Apply the spray to the orchard or vineyard floor, avoiding contact with fruit, foliage, or stems. Recommended rates are based on broadcast treatment. For band applications or spot applications around trees in fruit or nut plantings, reduce the broadcast rate of Princep 4L and water per acre in proportion to the area actually sprayed.

Precautions (All fruit and nut crops): To avoid crop injury, (1) Apply only to orchards or groves where trees have been established 12 months or more, unless specified differently, (2) Make only one application per year, except as noted otherwise, (3) Do not use on gravelly, sand, or loamy sand soil, and (4) Immediately following application, limit overhead sprinkler irrigation to 1/2 inch.

Almonds, Peaches, and Nectarines (CA only)

Apply 1-2 qts. of Princep 4L per treated acre in a 2 to 4-ft. band on each side of the tree row. Apply before weeds emerge in late fall or early winter. Weeds controlled by 1 qt. of Princep 4L include burclover, common chickweed, wild mustard, and shepherdspurse. Apply only once per year.

Precautions: To avoid crop injury, (1) Do not treat trees established in the grove less than 3 years. (2) Do not treat the Mission (TX) variety of almonds. (3) Do not apply to almond trees propagated on plum rootstocks. (4) Do not replant almonds, peaches, or nectarines in treated soil for 12 months after treatment. (5) Do not apply on soil with less than 1% organic matter. (6) Do not treat areas where water will accumulate.

Apples, Pears, and Sour Cherries

Apply 2-4 qts./A.

Avocados

CA and FL only: Apply 2-4 qts./A after final preparation of grove.

Blueberries and Caneberries (blackberries, boysenberries, loganberries, and raspberries)

Apply 2-4 qts./A in the spring or apply a split application of 2 qts./A in the spring plus 2 qts./A in the fall. Apply in a minimum of 40 gals. of water per acre.

On plantings less than 6 months old, use 1/2 the above rate.

To control quackgrass, apply 4 qts./A in the fall or split the application, applying 2 qts./A in the fall plus 2 qts./A in the spring, when quackgrass is actively growing.

Note: Do not apply when fruit is present, or illegal residues may result.

Cranberries

MA: Apply up to 4 qts./A, either before spring growth begins or in the fall after harvest.

Other areas: Apply 2 qts./A before spring growth begins.

Filberts

Apply 2-4 qts./A in the fall or apply a split application of 2 qts./A in the fall plus 2 qts./A in the spring.

Precaution: If trees are planted on a hillside, excessive soil erosion may result from the elimination of weeds.

Note: Do not apply when nuts are on the ground during the harvest period, or illegal residues may result.

Grapes

Apply 2-4.8 qts./A any time between harvest and early spring.

Precaution: Do not use in vineyards established less than 3 years, or crop injury may occur.

Grapefruit, Lemons, and Oranges

AZ (Lemons and Oranges only): Apply a split application of 1.6 qts./A in the spring plus 1.6 qts./A in the fall.

CA (Grapefruit, Lemons, and Oranges): Apply 2-4 qts./A in a single application; or apply 2 qts./A in the fall and 2 qts./A in the spring.

Precaution: Do not use in the Imperial, Coachella, or Palo Verde Valleys,

or crop injury may occur.

FL (Grapefruit and Oranges only): Apply 4 qts. of Princep 4L to weed-free soil during the spring and/or fall to control weeds expected to emerge during these periods. Apply prior to emergence of weeds or if weeds have emerged, apply in tank mixture with a contact herbicide. Use caution to keep the treatment off the foliage, fruit, or trunk of citrus trees.

For control of difficult species, such as balsamapple vine and spanishneedles, and partial control of honeyvine milkweed, apply 8 qts. of Princep 4L as a single application in the spring as a 50% band application to the grove acre. Apply in the spring growing season between January and April. Do not make a fall Princep 4L application if this treatment was used in the spring. When emerged weeds are present, apply Princep 4L in tank mixture with a recommended contact herbicide. Follow all directions, precautions, limitations, etc. on the tank mix products.

TX (Grapefruit and Oranges only): Apply 4-4.8 qts./A.

Precautions (All areas): To avoid crop injury, (1) Do not use in nurseries. (2) Do not apply to bedded grapefruit, lemons, or oranges (except for FL grapefruit and oranges). (3) Do not apply to trees under stress from freeze damage for one year after the freeze. (4) In FL, do not exceed 8 qts. of Princep 4L during any one growing season.

Macadamia Nuts

Apply 2-4 qts. in 50 gals. of water per acre before harvest and just prior to weed emergence. Repeat application as necessary.

Note: Do not apply when nuts are on the ground during the harvest period, as illegal residues may result.

Olives

Apply 2-4 qts./A following grove preparation in the fall. Repeat annually in midwinter.

Peaches, Plums, and Sweet Cherries

Apply 1.6-4 qts./A. Apply in late fall to early spring prior to weed emergence.

*Precautions: To avoid crop injury, (1) Peaches: use only in AR, LA, MO, OK, TX, and states east of the Mississippi River. For CA, see specific directions in the **Almonds, Peaches, and Nectarines (CA only)** section. (2) Plums and sweet cherries: use only in MO and states east of the*

Mississippi River, except TN.

Pecans

Apply 2-4 qts./A before weeds emerge in the spring.

Precautions: To avoid crop injury, (1) Do not use west of the Pecos River in TX or in AZ, CA, or NM. (2) Do not make applications to transplanted trees that have been established less than 2 years in the grove.

Note: Do not apply when nuts are on the ground, or illegal residues may result. Do not allow animals to graze treated areas.

Strawberries

OR and WA: For control of chickweed, groundsel, mustard, and shepherdspurse, apply broadcast 1 qt./A. In fields where overhead irrigation is used to activate this product, apply after harvest at time of bed renovation. In fields where overhead irrigation is not available, apply during early October through November.

Precautions: To avoid crop injury, (1) Make only one application per growing season. (2) Do not apply within 4 months after transplanting.

Walnuts

Apply 2-4 qts./A. Leveling and furrowing operations after application will lessen effectiveness of weed control.

Note: Do not apply when nuts are on the ground, or illegal residues may result.

Princep 4L Plus Bromacil 80W for Grapefruit and Oranges (FL Only)

Use in grapefruit and oranges in FL for control of balsamapple, black nightshade, carpetweed, crabgrass, cudweed, dayweed, Florida pusley, horseweed, pepperweed, pigweed, poorjoe, ragweed, rattlebox, spanishneedles, and sandbur, and for partial control of bermudagrass, bahiagrass, pangolagrass, paragrass, and torpedograss. Apply 4 qts. of Princep 4L plus 3-4 lbs. of bromacil 80W per acre beneath trees in a minimum of 40 gals. of water per acre before or soon after weed growth begins. Use caution to keep the spray off the foliage, fruit, or trunk of citrus trees. When mixing, add bromacil 80W slurry to water in spray tank, agitate thoroughly, then add Princep 4L and agitate thoroughly again. Use the lower rates for light weed infestations or all applications in bedded citrus areas. Use the higher rates for heavy weed infestations only in ridge grown citrus areas. Temporary yellowing of citrus leaves may occur following treatment.

Precautions: To avoid crop injury, (1) Do not use in nurseries, or where trees are under stress from freeze damage for one year after the freeze.

(2) Do not use on soil with less than 1% organic matter or on poorly drained soil. (3) Do not treat trees planted in irrigation furrows. (4) Do not treat diseased trees such as those with foot rot. (5) Do not use in groves interplanted with other trees or desirable plants, nor in home grapefruit or orange plantings, or in areas where roots of other valuable plants or trees may extend. (6) Treated areas may be planted to citrus trees one year after application. (7) Do not rotate to other crops within 2 years after application.

Note: Apply only once per year and avoid contact with foliage and fruit with spray or mist, or illegal residues may result.

Princep 4L Plus Gramoxone® Extra

This tank mix is effective in the following fruit and nut crops for kill of existing vegetation and for residual control of the annual broadleaf and grass weeds claimed for Princep 4L applied alone. This combination is also effective for top kill and suppression of perennial weeds. In FL, this mixture may be applied in spring or fall to emerged weeds.

Use this tank mix on these crops:

- | | |
|-----------------------------------------|----------------------|
| almonds (CA only) | olives |
| apples | oranges ² |
| avocados (CA and FL ¹ only) | peaches ³ |
| cherries (sour and sweet ⁴) | pears |
| filberts | pecans |
| grapefruit (CA and TX only) | plums ⁴ |
| grapes | walnuts |
| lemons (AZ and CA only) | |
| macadamia nuts | |

Apply the Princep 4L rate given under the appropriate crop on this label plus 1.5-2.5 qts. of Gramoxone Extra* in 50-200 gals. (30-50 gals. for pecans) of water per acre to the orchard floor, avoiding contact with fruit, foliage, or stems. Add a nonionic surfactant, such as X-77®, at 0.5 pt./100 gals. of spray. Apply when weeds are succulent and new growth is 1-6 inches tall. For mature woody weeds or difficult to control perennial weeds, re-treat or spot treat with Gramoxone Extra if regrowth occurs.

Add Princep 4L to the spray tank first (refer to **Mixing Procedures** section of this label), then add Gramoxone Extra, and add the surfactant last. Provide constant agitation during mixing and application to keep the mixture in suspension.

Precautions: To avoid crop injury, (1) Apply the tank mix only once per year. (2) Use a shield for young trees or vines.

Refer to the Princep 4L and Gramoxone Extra labels for further directions, specific weeds controlled, and precautions and limitations on each crop.

¹In avocados in FL, this tank mix also controls balsamapple, rattail amaranth, and at the higher rate of each herbicide, it suppresses coral vine.

²In oranges in FL, apply 4 qts. of Princep 4L per acre per application. Do not exceed 8 qts. of Princep 4L during any one growing season.

³Limited to AR, CA, LA, MO, OK, TX, and states east of the Mississippi River. As appropriate, refer to Princep 4L sections **Almonds, Peaches, and Nectarines (CA only)** or **Peaches, Plums, and Sweet Cherries** for rate of Princep 4L and other information.

⁴Limited to MO and states east of the Mississippi River, except TN.

*Based on a product containing 1.5 lbs. of Gramoxone Extra cation per gallon.

Tank Mixture with Roundup®

This tank mixture is effective in grape vineyards and in the following bearing or nonbearing tree crops for control of existing vegetation and for residual control of the annual broadleaf and grass weeds claimed for this product applied alone. This combination is also effective for partial control of perennial weeds contacted by the spray mixture during application. Use this tank mixture on these crops:

- | | |
|-----------------------------------------|-------------------------------|
| almonds** (CA only) | macadamia nuts** |
| apples* | oranges* (AZ, CA, FL, and TX) |
| avocados* (CA and FL only) | peaches* ¹ |
| cherries (sour and sweet ²) | pears* |
| filberts** | pecans** |
| grapefruit* (CA, FL, and TX) | plums* ² |
| grapes* | walnuts** |
| lemons* (AZ and CA) | |

Use the appropriate rate given elsewhere on this label for Princep 4L applied alone to the crop being treated. Add to the spray tank 1-5 qts. of Roundup per acre depending on weeds present and their growth stage. Also add an agriculturally approved nonionic surfactant at 0.5% by volume of spray solution. Apply the mixture in 10-40 gals. of water per acre as a postemergence spray to the weeds at the appropriate weed growth stage given on the Roundup label.

Add Princep 4L to the spray tank first, then add Roundup. Provide constant agitation during mixing and application to keep the mixture in suspension. Refer to **Application Procedures** section of this label for further directions.

Precaution: To avoid crop injury, take extreme care to avoid contact of herbicide solution, spray, drift, or mist with foliage or green bark of trunk, branches, suckers, fruit, or other parts of trees or vines. Observe precautions on both the Princep 4L and Roundup labels for each crop involved.

Refer to the labels of both herbicides for further directions, specific weeds controlled, and precautions and limitations on each crop.

*Allow a minimum of 14 days between last application and harvest.

**Allow a minimum of 21 days between last application and harvest of these crops.

¹Limited to AR, CA, LA, MO, OK, TX, and states east of the Mississippi River. For CA, see specific directions in the **Almonds, Peaches, and Nectarines (CA only)** section.

²Plums and sweet cherries: limited to MO and states east of the Mississippi River, except TN.

Tank Mixture with Solicam®

For improved control of such weeds as clover, cutleaf eveningprimrose, dandelion, henbit, horseweed or marestalk, lambsquarters, and puncturevine, apply Princep 4L in tank mixture with Solicam DF on these crops:

- oranges
- ✦ grapefruit
- lemons

Apply 4 qts./A of Princep 4L plus 4-5 lbs. of Solicam DF Herbicide (78.6% active ingredient) in 20-100 gals. of water per acre. Princep 4L + Solicam may be applied in tank mixture with Gramoxone Extra or Roundup.

Follow the labeled directions and restrictions of use on labels of the herbicides used in mixtures with Princep 4L.

Precaution: Keep Princep 4L + Solicam mixtures from contacting foliage, fruits, and stems of citrus trees during spraying.

Princep 4L + Surflan®

Use this tank mix in the following crops for preemergence control of all

weeds claimed on both labels:

almonds
 apples
 avocados
 caneberrries
 cherries
 filberts
 grapes
 grapefruit

lemons
 oranges
 peaches
 pears
 pecans
 plums
 English walnuts

Apply the Princep 4L rate given under the appropriate crop on this label plus 2.67-5.33 lbs. of Surflan 75W or 2-4 qts. of Surflan A.S. in 20-40 gals. of water per acre. Refer to the Surflan 75W or Surflan A.S. label for complete tank-mix directions, and use 0.8 qt. of Princep 4L for each lb. of Princep 80W. Observe all precautions and limitations on the Princep 4L and Surflan labels.

FIELD CROPS

Corn

Nitrogen solution or complete liquid fertilizer may replace all or part of the water in the spray. Determine the physical compatibility of Princep 4L with fertilizer before use. Refer to the **General Information** section of this label for a compatibility test procedure. Do not apply after corn has emerged, as there is danger of liquid fertilizer causing crop injury. Use a minimum of 10 gals. of spray mixture per acre.

Preemergence: Apply before weeds and corn emerge. Use the appropriate rate in the following table.

Preplant: Broadcast in the spring after plowing at the appropriate rate in the following table. Apply before, during, or after final seedbed preparation. If soil is tilled or worked after application, avoid deep incorporation of Princep 4L. Best results will be obtained when Princep 4L is applied within 2 weeks before planting. Under dry weather conditions, preplant applications may give better weed control than preemergence. If weeds develop, particularly under relatively dry conditions, a shallow cultivation will generally result in better weed control.

Soil Texture	Broadcast Rate Per Acre*
Sand, silt, and loam that is low in organic matter	4 pts.
Soil containing moderate amounts of clay and organic matter	4.8 pts.
Loam that is high in organic matter and clay (including dark prairie soils or Corn Belt)	6 pts.
Peat, muck, and high-organic clay	8 pts.

*For calculation of band treatment rate, see the **General Information** section.

Quackgrass Control: Broadcast 6-8 pts./A in the fall. Plow 2-3 weeks later, or, if erosion is a problem, delay plowing until spring.

Winter Annual Broadleaf Control – Preemergence Fall Application

For preemergence control of winter annual weeds, such as common chickweed, henbit, shepherdspurse, tansymustard, wild mustard, annual bluegrass, downy brome, and others, broadcast 1 qt./A of Princep 4L after harvest of the preceding crop and prior to weed emergence on land to be planted to corn the following year. A tillage operation may precede the application. Do not apply to frozen ground. If Princep 4L is used in the fall corn weed control program, do not exceed 2 qts. of Princep 4L preemergence in the spring.

Precautions: (1) Do not apply more than 8 pts. of Princep 4L per acre of corn per year. (2) Do not plant any crop except corn until the following year, or injury may occur. (3) Following harvest, plow and thoroughly till the soil in fall or spring to minimize possible injury to spring-seeded rotational crops, regardless of the rate used. (4) If Princep 4L is used at a rate higher than 6 pts./A or equivalent band rate, a crop of untreated corn should precede the next rotational crop. (5) Do not apply Princep 4L pre-plant incorporated for weed control in corn in the High Plains and Intermountain areas of the West (including central and western KS, western NE, western OK, and the Panhandle of TX) where rainfall is sparse and erratic or where irrigation is required. (6) In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use Princep 4L only when corn is to follow corn or when a crop of untreated corn is to precede other rotational crops. (7) In western MN and eastern parts of the Dakotas, NE, and KS, do not rotate to soybeans if the rate applied was more than 4 pts./A or

equivalent band rate, or injury may occur. (8) Injury may occur to soybeans planted in north-central and northwest IA, south-central and southwest MN, northeast NE, southeast SD, and other areas the year following application on soils having a calcareous surface layer. (9) Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes and grasses the year following Princep 4L application, or injury may occur.

Note: Do not graze treated areas, or illegal residues may result.

Tank Mixture on Corn

AAtrex®: Use Princep 4L in a preplant or preemergence tank mixture with AAtrex Nine-O®, AAtrex 80W, or AAtrex 4L for control of many annual weeds, including carpetweed, crabgrass, fall panicum, foxtail, lamb-squarters, morningglory, pigweed, ragweed, and velvetleaf.

Apply at the rates given below. Use the 1:1 ratio for most weeds and the 2:1 ratio for expected heavy infestations of crabgrass and fall panicum.

Soil Texture	Broadcast Rate Per Acre			
	1:1 Ratio		2:1 Ratio	
	Princep 4L	AAtrex 80W*	Princep 4L	AAtrex 80W*
Sand, loamy sand, sandy loam	1 qt.	1.25 lbs.	1.33 qts.	0.83 lb.
Loam, silt loam, silt, clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with low organic matter	1.2 qts.	1.5 lbs.	1.6 qts.	1 lb.
Loam, silt loam, silt, clay loam, sandy clay loam, silty clay loam, sandy clay, or silty clay with medium to high organic matter, and clay (including dark prairie soils of the Corn Belt)	1.44 qts.	1.8 lbs.	1.92 qts.	1.2 lbs.

*When using AAtrex 4L or AAtrex Nine-O, use equivalent rates. One lb. of AAtrex 80W equals 0.8 qt. of AAtrex 4L or 0.9 lb. of AAtrex Nine-O.

Refer to the AAtrex label for complete directions. Also refer to the AAtrex label and the **Corn** section of this label for precautions and limitations.

Eradicane®: Use in a preplant incorporated tank mixture for control of all weeds claimed on both the Princep 4L and Eradicane labels, including partial control (suppression) of shattercane (wild cane). Fluid fertilizer may replace all or part of the water in the spray. Check the physical compatibility of mixture with fertilizer before use. Refer to the **General Information** section of this label for a compatibility test procedure. Use a minimum of 20 gals. of spray volume per acre. Refer to the Eradicane label for incorporation directions. Use the higher rate of Princep 4L on fine-textured soil and where heavy broadleaf infestations are expected. Use the higher rate of Eradicane for heavy nutsedge and bermudagrass infestations. For partial control (suppression) of shattercane, broadcast and incorporate **immediately** before planting 2-4 pts. of Princep 4L plus 7.33 pts. of Eradicane 6.7E (or 8 pts. of Eradicane Extra) per acre. For control of the other weeds claimed on both labels, broadcast and incorporate 2-6 pts. of Princep 4L plus 4.75-7.33 pts. of Eradicane 6.7E (or 5.33 pts. of Eradicane Extra) per acre. Observe all precautions and limitations on the Princep 4L and Eradicane labels.

Gramoxone Extra: Use in a tank mixture where corn will be planted directly in a cover crop, established sod, or previous crop residues. This combination controls existing vegetation and provides residual control of the annual broadleaf and grass weeds listed under **General Information**.

Add Princep 4L to the spray tank, mix thoroughly with water, and then add Gramoxone Extra and a nonionic surfactant. Provide constant agitation during mixing and application to keep the mixture in suspension.

Apply 4-6 pts. of Princep 4L plus 1.5-2.5 pts. of Gramoxone Extra* in 20-60 gals. of water per acre as a broadcast spray, either before or after planting, but before corn emerges. Add a nonionic surfactant at the rate of 0.5 pt./100 gals. of spray volume.

For further information, see general information, caution and warning statements, precautions, and notes on the Princep 4L and the Gramoxone Extra labels.

*Based on a product containing 1.5 lbs. of Gramoxone[®] Extra cation per gallon.

Sutan +®: Use in a preplant incorporated tank mixture for control of all weeds claimed on both the Princep 4L and Sutan + labels, including partial control (suppression) of shattercane (wild cane). Fluid fertilizer may replace all or part of the water in the spray. Check the physical compatibility of mixture with fertilizer before use. Refer to the **General Information** section of this label for a compatibility test procedure. Use a minimum of 20 gals. of spray volume per acre. Refer to the Sutan + label

for incorporation directions. Use the higher rate of Princep on fine-textured soil and where heavy broadleaf infestations are expected. For partial control (suppression) of shattercane, broadcast and incorporate **immediately** before planting 2-4 pts. of Princep 4L plus 7.33 pts. of Sutan + 6.7E per acre. For control of the other weeds claimed on both labels, broadcast and incorporate 2-6 pts. of Princep 4L plus 4.75 pts. of Sutan + 6.7E per acre. Observe all precautions and limitations on the Princep 4L and Sutan + labels.

NURSERIES, CHRISTMAS TREE PLANTINGS, SHELTERBELTS

Nurseries (see list below)

Apply 2-3 qts. in at least 25 gals. of water per acre in fall or spring.

Precautions: To avoid plant injury, do not apply for at least one year after transplanting.

Christmas Tree Plantings and Shelterbelts (see list below)

Remove weed growth before application. Apply 2-4 qts. in at least 25 gals. of water per acre after transplanting. Use at the same rate for annual maintenance applications.

For quackgrass control apply 4 qts./A in the fall or apply a split application of 2 qts./A in the fall plus 2 qts./A in early spring, after quackgrass begins growth.

Precautions: To avoid tree injury, (1) Do not use Princep 4L on seedbeds or cuttingbeds. (2) In CA, OR, and WA, do not apply to Christmas trees or shelterbelts sooner than one year after transplanting. In other areas, do not apply to Christmas trees or shelterbelt transplants less than 2 years of age. (3) Do not use until soil is firmly settled around roots. (4) Do not apply more than once a year, except as directed for quackgrass control.

Apply Princep 4L to these species of trees and shrubs as recommended above:

Conifers

**Deciduous Trees and Woody
Ornamentals**

arborvitae
 Austrian pine
 Bishop pine*
 knobcone pine*
 lodgepole pine (shore pine)
 Monterey pine*
 Mugho pine
 red pine (Norway pine)
 Scotch pine
 white pine
 blue spruce
 Norway spruce
 red spruce
 white spruce
 balsam fir
 Douglas fir
 Fraser fir
 white fir
 hemlock
 juniper
 red cedar
 white cedar
 yew (*Taxus* spp.)

American elm
 Siberian elm
 barberry
 boxelder
 bush honeysuckle
 caragana
 cotoneaster
 dogwood
 eucalyptus
 holly (*Ilex* spp.) (max. 3.2 qts./A)
 honey locust
 Oregon grape (*Mahonia* spp.)
Pieris spp. (max. 3.2 qts./A)
 red oak
 Russian olive
 oleander*
 palm (2 qts./A)*
 bottle brush*
 carob*

*For CA only

Pennant® Tank Mix: Princep 4L may be tank-mixed with Pennant Liquid Herbicide to control weeds in containerized, field, and liner* grown ornamentals and commercial landscapes. See the Pennant label for ornamental species, weeds controlled with this tank mixture, and for other information.

*Plants transplanted normally in rows in a nursery or similar area for further growth prior to transplanting to final growing place.

Surflan Tank Mix: On Christmas tree plantings, use this tank mix for preemergence control of weeds listed on the Surflan 75W (or Surflan A.S.) and Princep 4L labels. Use on field grown conifer species listed on the labels for each herbicide plus grand fir, alpine fir, Engelmann spruce, black spruce, Colorado blue spruce, Coulter pine, giant redwood, and Veitchi fir.

Broadcast the mixture as a directed spray to the soil surface or as an overtop spray, using 2-4 qts. of Princep 4L and 2.67-5.33 lbs. of Surflan 75W (or 2-4 qts. of Surflan A.S.). Apply in sufficient water per acre to uniformly treat the area. Follow overtop sprays with sprinkler irrigation to

move the herbicide from leaf surfaces to the soil. Remove weed growth before application. Mix weed residues, prunings, or trash into the soil, or remove them before treatment. Soil should be in good tilth and free of clods at time of application. Shallow cultivation (1-2 inches) after treatment will not reduce weed control. Observe all precautions and limitations on the Princep 4L and Surflan labels.

Note: Length of weed control may be reduced when continuous wet soil conditions follow herbicide application.

Precautions: To avoid plant injury, (1) Do not use on seedbeds or on unrooted cuttings. (2) Do not use in greenhouses or other enclosed areas.

TURFGRASSES FOR SOD (FL ONLY)

St. Augustinegrass, Centipedegrass, and Zoysiagrass

Apply 2-4 qts./A, according to soil texture as indicated below.

Muck or peat	4 qts.	Old beds	within 2 days after lifting of sod
		New beds	3-4 days after sprigging or plugging
Sandy soil	2 qts.	Old beds	within 2 days after lifting of sod
		New beds	7-10 days after sprigging or plugging

If weeds regrow, apply an additional 2 qts. on muck or peat, or 1 qt. on sandy soil.

Precautions: To avoid crop injury, (1) Do not apply within 30 days prior to cutting or lifting. (2) Do not apply in combination with surfactants or other spray additives. (3) Use only on turfgrass reasonably free of infestations of insects, nematodes, and diseases. (4) On newly sprigged turfgrass, temporary slowing of growth may follow application.

TURFGRASS FOR FAIRWAYS, LAWNS, SOD PRODUCTION*, AND SIMILAR AREAS

*In states other than FL. For use on turfgrass for sod in FL, see **Turfgrasses for Sod (FL only)** section.

Bermudagrass, Centipedegrass, St. Augustinegrass, and Zoysiagrass

Apply Princep 4L after September 1 (after October 1 for annual bluegrass) before emergence of winter annual weeds. Princep 4L will control annual bluegrass, burclover, lawn burweed, common and mouseear chickweed, corn speedwell, henbit, hop clover, spurweed, and parsley-piert. Princep 4L will also control these weeds soon after emergence. For control of summer annual weeds listed in the **General Information** section of this label, apply Princep in late winter before the weeds emerge. Apply in a minimum of 15 gals. of water per acre.

Irrigate with 1/2 inch of water if rainfall does not occur within 10 days after preemergence treatment.

Where annual bluegrass is the major weed, use 1 qt. of Princep 4L per acre (22 ml. or 0.75 fl. oz. per 1,000 sq. ft.). Use 2 qts./A (22-44 ml. or 0.75-1.5 fl. oz. per 1,000 sq. ft.) for control of other weeds. However, do not exceed 1 qt./A per treatment on newly sprigged turfgrass or on hybrid bermudagrass, such as Tiflawn, Tifway, and Ormond.

For control of summer annuals which emerge after the initial application, apply an additional 1 qt./A at least 30 days after the initial application, but not after June 1. However, do not make more than 2 applications per year.

Precautions: Only newly sprigged turfgrass, hybrid bermudagrass, non-dormant bermudagrass, or nondormant zoysiagrass, temporary slowing of growth and yellowing may occur following application. To avoid turf injury, (1) Use only on turfgrass reasonably free of infestations of insects, nematodes, and diseases. (2) Do not use on golf greens. (3) Do not use north of NC (except may be used in the VA Coastal Plains) or on soils with a pH above 7.8. (4) Do not use on muck or alkaline soils. (5) Do not apply over the rooting area of trees or ornamentals not listed on this label. (6) Do not seed or overseed with desirable turfgrass within 4 months before or 6 months after treatment. (7) Do not apply this product to newly seeded grasses until they have overwintered and have a well-developed rhizome system. (8) Do not exceed 2 qts./A within 12 months of seeding grasses.

Note: Do not graze or feed turf clippings to animals, or illegal residues may result.

STORAGE AND DISPOSAL

Storage

Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material. ✓

Pesticide Disposal

~~Do not contaminate water, food, or feed by storage or disposal.~~ Pesticide wastes may be toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of federal law. If these wastes cannot be used 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 in proper disposal methods.

Container Disposal (2 1/2 gallon)

Do not reuse empty container. Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

Container Disposal (Bulk, 100 and 220 gallon)

Refer to label on container for disposal instructions.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals**CAUTION**

Causes eye irritation. Harmful if inhaled or absorbed through the skin. Avoid breathing vapors or spray mist. Avoid contact with eyes, skin, or

clothing.

First Aid: If in eyes, flush with plenty of water. Get medical attention if irritation persists. If on skin, wash with plenty of soap and water. If inhaled, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth; get medical attention.

Personal Protective Equipment

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category C on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
 - Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
-

Environmental Hazards

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. Simazine is a chemical which can travel (seep or leach) through soil and enter ground water which may be used as drinking water. Simazine has been found in ground water as a result of its use as a herbicide. Users of this product are advised not to apply simazine where the water table (ground water) is close to the surface and where the soils are very permeable, i.e., well-drained soils, such as loamy sands. Users are advised to consult with their local agricultural agencies to obtain information on the location of ground water and the type of soil in their area.

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Compex® trademark of KALO Agricultural Chemicals, Inc.

Eradicane®, Gramoxone®, and Sutan +® trademarks of Zeneca Ag Products

Roundup® trademark of Monsanto Company

Surflan® trademark of DowElanco

Unite® trademark of HACO, Inc.

X-77® trademark of Loveland Industries, Inc.

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NCP 526A-L32W 0500

[QUARK\PRINCEP 4L]N-PRN4L-E - 5/19/00

(Container Label)

(For 2 1/2 gal., Bulk, 100, and 220 gal.)

Princep® 4L

HERBICIDE

For weed control in certain crops and ornamental plantings

Active Ingredient:

Simazine: 2-chloro-4,6-bis(ethylamino)-s-triazine

.....41.9%

Other Ingredients: 58.1%

Total: 100.0%

Princep 4L contains 4 lbs. active ingredient per gallon.

EPA Reg. No. 100-526

EPA Est. 100-LA-1

See directions for use in attached booklet.

2.5 GALLONS	_____ GALLONS	100 GALLONS	220 GALLONS
U.S. Standard Measure	U.S. Standard Measure	U.S. Standard Measure	U.S. Standard Measure

KEEP OUT OF REACH OF CHILDREN.

CAUTION ↓

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes eye irritation. Harmful if inhaled or absorbed through the skin. Avoid breathing vapors or spray mist. Avoid contact with eyes, skin, or clothing.

First Aid: If in eyes, flush with plenty of water. Get medical attention if irritation persists. If on skin, wash with plenty of soap and water. If inhaled, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth; get medical attention.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. Simazine is a chemical which can travel (seep or leach) through soil and enter ground water which may be used as drinking water. Simazine has been found in ground water as a result of its use as a herbicide. Users of this product are advised not to apply simazine where the water table (ground water) is close to the surface and where the soils are very permeable, i.e., well-drained soils, such as loamy sands. Users are advised to consult with their local agricultural agencies to obtain information on the location of ground water and the type of soil in their area.

Do not apply this product through any type of irrigation system.

Container Disposal (2 1/2 gallon)

Do not reuse empty container. Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

See directions for use in attached booklet.

Container Disposal (Bulk)

Thoroughly clean container before reuse, unless this is a Novartis refillable container. **If this is a Novartis refillable container and is to be refilled, do not rinse or introduce any pesticide other than Princep 4L.** Reseal and return the container to an authorized Novartis refilling facility. If the Novartis container is not to be refilled, triple rinse (or equivalent), and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

To be used in accordance with directions for use in Princep 4L label booklet. See Princep 4L label booklet for pesticide disposal instructions.

Container Disposal (100 and 220 gallons)

This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than Princep 4L. Reseal and return the container to an authorized Novartis refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label

and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

To be used in accordance with directions for use in Princep 4L label booklet. See Princep 4L label booklet for pesticide disposal instructions.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Princep® trademark of Novartis

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NCP 526A-L32W 0500

- Revised October 23, 1981
- Revised November 11, 1982
- Revised September 20, 1983
- Revised January 9, 1984
- Revised February 28, 1984
- Revised September 25, 1985
- Revised November 1, 1985
- Revised August 21, 1986
- Revised February 3, 1987
- Revised April 1, 1987
- Revised February 1, 1988
- Revised October 10, 1989
- Revised September 12, 1990
- Revised January 16, 1992
- Revised September 1993
- Revised October 17, 1994
- Revised February 21, 1995

Revised February 20, 1997
Revised October 1, 1999
Revised April 6, 2000
Revised May 17, 2000

[QUARK\PRINCEP 4L]N-PRN4L-E - ccg - 5/19/00

Princep® 4L
100-526

Changes made on typed label:

11/11/82

1. Added many uses to label to parallel 80W and Caliber® 90, except did not add alfalfa or forage bermudagrass.
2. Changed signal word to Caution and revised precautionary statements.

9/20/83

Added tank mixes with Oust, Roundup, and Dual, revised mixing directions, revised compatibility directions, revised triazine resistant weed statement, added tree seedlings in N. Central U.S., added filberts to Surflan tank mix.

1/9/84

Deleted hemp dogbane and puncturevine in Oust tank mix.

2/28/84

Added farmworker safety statements, revised storage and disposal statements, added "**black walnut" to Tree Seedlings in North Central U.S. section. Made numerous changes in precautions in DFU.

9/25/85

Revised environmental hazards to include a ground water advisory statement approved by EPA for simazine.

11/1/85

Add turfgrass use precaution concerning bermudagrass, minor format revisions to turfgrass and sod production directions.

8/27/86

Delete grasses grown for seed, tree plantations for timber uses.

2/3/87

Add ornamental species to Dual 8E Tank Mix, revised FL citrus directions

to indicate use on Bedded and Ridge Areas. Reduced noncrop rate to 18# a.i./A.

4/1/87

Revised ground water advisory per settlement agreement.

2/1/88

Revise turfgrass directions, add "Super" to Gramoxone®.

10/10/89

Add nectarines, revise citrus (FL), add Solican tank mix, delete Evik 80W tank mix, revise Dual to Pennant tank mix, other minor revisions.

9/12/90

Made minor changes in format and corrected typos due to transfer to new system. Corrected error to Roundup citrus tank mix directions.

1/16/92

Delete noncropland, asparagus, artichokes and sugarcane.

9/93

WPS/new logo/aquatic use prohibition.

10/17/94

Rev. turf restriction from "west of Highway 281" to pH 7.8.

2/10/95

Removed 12 week restriction for tank mixture with Solicam on citrus.

2/20/97

Novartis logo.

10/1/99

Add fall application (pre-corn).

4/6/00

Revise crop rotation language, revise citrus (FL) for single max rate.

5/17/00

Revise Storage and Disposal; consolidate label copy, etc.