

Roundup

Herbicide by Monsanto

Complete Directions for Use

EPA Reg. No. 524-308-AA

For use of this product in California, see pages 75-82 and 83.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

1982-1 B-897.10-001.93/53

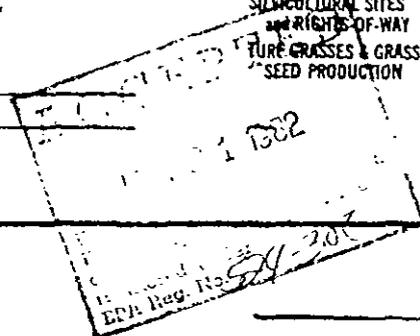
Read each of these sections of this label for essential product performance information.

USE THESE CONVENIENT SECTION MARKERS.



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Read the entire label.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

LIMIT OF WARRANTY AND LIABILITY

This company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this company, including but not limited to incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather (i.e. weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied with the normal range being determined on

the basis of the average range for the prior 10 years computed from the best available information, and ii. weather perils, including but not limited to hurricanes, tornadoes and floods) as well as weather considerations set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY OR, IF NOT REQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals
Keep out of reach of children.

WARNING!

CAUSES EYE IRRITATION.

HARMFUL IF SWALLOWED.

Do not get in eyes, on skin or on clothing.

FIRST AID: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. Flush skin with water. Wash clothing before reuse.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

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Environmental Hazards

Avoid direct applications to any body of water. Do not contaminate water by disposal of waste or cleaning of equipment.

Storage and Disposal

Avoid contamination of seed, feed, and foodstuffs.

Do not reuse container, destroy when empty.

ACTIVE INGREDIENT

*Isopropylamine salt of Glyphosate 41.0%

INERT INGREDIENTS

59.0%

100.0%

*Contains 480 grams per liter or 4 pounds of the active ingredient isopropylamine salt of N-(phosphonomethyl) glycine per U.S. gallon. Equivalent to 356 grams per liter or 3 pounds per U.S. gallon of the acid, glyphosate.

U.S. Pat. No. 3 799,759 covers use.

Other patents are pending.

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In case of an emergency involving this product, Call Collect. day or night. (314) 694-4600.

MONSANTO COMPANY
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GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Roundup® herbicide, a water soluble liquid, mixes readily with water to be applied as a foliage spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow down activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above ground growth and deterioration of underground plant parts.

Unless otherwise specified on this label delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "Weeds Controlled" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the spray and will continue to grow.

For this reason best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (non-cultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow for the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

Roundup herbicide does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Nonionic surfactants which are labeled for use with herbicides may be used to improve wetting of foliage. Do not reduce rates of Roundup when adding

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surfactant. Read and carefully observe surfactant rates, cautionary statements, and other information appearing on the surfactant label.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of Roundup with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label, may result in reduced Roundup performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

†Registered Trademark of Monsanto Company

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash on to desirable vegetation since minute quantities of this herbicide can cause severe damage or destruction to the crop, plants, or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying avoid combinations of pressure and nozzle type that will result in splatter or

fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

Do not contaminate water by disposal of wastes or cleaning of equipment.

Do not reuse container. Destroy when empty.

MIXING AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY UNDER WIND OR OTHER CONDITIONS WHICH ALLOW DRIFT TO OCCUR. HAND GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

MIXING

This product mixes readily with water, mix spray

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solutions of this product as follows. Fill the mixing or spray tank with the required amount of water. Add the proper amount of this product (see "Directions for Use" and "Weeds Controlled" sections of this label) near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. During mixing and application foaming of the spray solution may occur. To prevent or minimize foam; avoid the use of mechanical agitators, place the filling hose below the surface of the spray solution, terminate by-pass and return lines at the bottom of the tank and if needed use an approved anti-foam or defoaming agent.

TANK MIXTURES

Always predetermine the compatibility of labeled tank mixes of this herbicide with water carrier by mixing small proportional quantities in advance. Mix labeled tank mixtures of Roundup herbicide with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the sprayer tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.

4. If a flowable formulation is used, pre-mix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If Lasso is used pour one part Lasso into two parts water and mix. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. Continue filling the sprayer tank with water and add the required amount of Roundup herbicide near the end of filling process. Maintain good agitation at all times until the contents of the tank are sprayed. NOTE: If spray mixture is allowed to settle at any time, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground applications equipment, use flat fan nozzles.

SOIL TEXTURE

The recommended use rates of other herbicides labeled for use with Roundup® in tank mixtures generally vary with soil texture. Rate tables throughout this label, unless the soil texture is specifically named, refer to only three soil texture groups:

Coarse, Medium and Fine The following is a complete listing of soil textures included in each of these three soil texture groups:

| SOIL TEXTURE GROUP | SOIL TEXTURE |
|--------------------|--|
| COARSE: | sand loamy sand, sandy loam |
| MEDIUM: | loam, silt loam, silt, sandy clay loam |
| FINE: | silty clay loam, clay loam, sandy clay, silty clay, clay |

Refer to the above table to determine the corresponding soil texture group for the soil to be treated

APPLICATION EQUIPMENT AND TECHNIQUES

AERIAL EQUIPMENT

Use the recommended rates of Roundup herbicide in 5 to 15 gallons of water per acre unless otherwise specified on this label. See "WEEDS CONTROLLED" section of this label for specific rates. Aerial applications of this product may only be made as specifically recommended on this label.

Avoid direct application to any body of water.

AVOID DRIFT — DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREAT-

MENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift, therefore, do not use nozzles or nozzle configurations which disperse spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application — To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (Paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

BOOM EQUIPMENT

For control of Annual or Perennial Weeds listed on this label using conventional boom equipment—Use the recommended rates of this product in 10 to

40 gallons of water per acre as a broadcast spray except as indicated on this label. See "Weeds Controlled" section of this label for specific rates. As density of weeds increase, spray gallonage should be increased within the recommended range to insure complete coverage.

Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

HAND-HELD and HIGH VOLUME EQUIPMENT

Use coarse sprays only

For control of weeds listed on this label using knapsack sprayers or high volume spraying equipment utilizing handguns or other scitable nozzle arrangements—Unless otherwise specified, make a 1% solution of this product in water and apply to foliage of vegetation to be controlled. For best results, use a 2% solution on harder-to-control perennials such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff. Do not reduce recommended rates of Roundup when adding surfactant.

Prepare the desired volume of spray solution by mixing the amount of this product in water, shown in the following table:

Spray solution

| DESIRED VOLUME | AMOUNT OF ROUNDUP* | | |
|-------------------------|--------------------|--------|-------|
| | 1% | 1½% | 2% |
| 1 gallon | 1¼ oz | 2 oz | 2¾ oz |
| 25 gallons | 1 qt | 1½ qt | 2 qt |
| 100 gallons | 1 gal | 1½ gal | 2 gal |
| 2 tablespoons = 1 ounce | | | |

For use in knapsack sprayers, it is suggested that the proper amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

For Hand-Held WIPER APPLICATOR see the "Selective Equipment" section of this label for use precautions, rates and weeds controlled.

SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, a shielded applicator, or wiper applicator after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded applicator directs the herbicide solution onto weeds while shielding desirable vegetation from the herbicide.

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

AVOID CONTACT WITH DESIRABLE VEGETATION

Contact of the herbicide solution with the desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or solution of the herbicide solution settling on desirable vegetation may result in discoloration, stunting, or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

See the "Weeds Controlled" section of this label for recommended stage of growth for specific weeds.

NOTE

- Maintain equipment in good operating condition. Avoid leakage or dripping onto desirable vegetation.

- Adjust height of applicator to insure proper contact with weeds.
- Keep nozzle tips and wiping surfaces clean.
- Keep spray patterns aligned into recovery chamber of the recirculating sprayer.
- Keep shields on shielded applicators adjusted to protect desirable vegetation.
- Maintain recommended roller RPM on roller applicators while in use.
- Keep wiper material at proper degree of saturation with herbicide solution.
- DO NOT use wiper equipment when weeds are wet.
- DO NOT operate equipment at ground speeds greater than 5 mph. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to insure good coverage of weeds.
- Be aware that on sloping ground the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of a wiper applicator.
- Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended herbicide solution directly to the weed.
- Care must be taken with all types of wipers to insure that the absorbent material does not become oversaturated, causing the herbicide to drip on desirable vegetation.

- Mix only the amount of solution to be used during a one day period, as reduced activity may result from use of leftover solutions. With all equipment, drain and clean sprayer and wiper parts immediately after using this product by thoroughly flushing with water.

RECIRCULATING SPRAYERS

Recirculating sprayer calibration is made on the basis of ground speed and delivery volume. Two procedures can be used to calibrate: (1) determine the discharge being delivered per minute, then operate at the designated ground speed, or (2) select the desired ground speed and then adjust the sprayer to deliver the proper volume per minute (this may require nozzle changes). Use the appropriate table below.

Do not operate at nozzle pressure above 20 PSI.

Table 1. Use this table when calibrating Box or Row type recirculating sprayers. Box or Row type sprayer calibration is based on the total discharge collected per row. Use only straight stream or 15° fan type nozzles.

| VOLUME PER MINUTE PER ROW | |
|---------------------------|----------|
| MPH | Ounces |
| 2 | 26 to 35 |
| 3 | 38 to 51 |
| 4 | 51 to 68 |
| 5 | 65 to 86 |

NOTE: Be certain the amount collected is for all spray streams treating one row.

Table 2. Use this table when calibrating Broadcast type recirculating sprayers. Broadcast recirculating sprayer calibration is based on the discharge collected per minute from one nozzle on a 20 inch spacing.

| VOLUME PER MINUTE PER NOZZLE | |
|------------------------------|----------|
| MPH | Ounces |
| 2 | 7 to 9 |
| 3 | 10 to 13 |
| 4 | 13 to 18 |
| 5 | 16 to 22 |

When applied as recommended under the conditions described for recirculating sprayers, this product will control the following weeds growing a minimum of 6 inches above desirable vegetation.

Perennial Broadleaf Weeds — To SUPPRESS the following weeds, mix in a ratio of 4 quarts of this product in 20 gallons of water and apply as directed.

Dogbane (hemp) Milkweed
 Apocynum cannabinum Asclepias syriaca

Perennial Grasses and Annual Broadleaf Weeds — To control the following weeds, mix in a ratio of 3 quarts of this product in 20 gallons of water and apply as directed:

Cocklebur Pigweed, Redroot
 Xanthium Amaranthus
 pennsylvanicum retroflexus
Johnsongrass Sunflower
 Sorghum halepense Helianthus annuus

Annual Grasses — To control the following weeds, mix in a ratio of 2 quarts of this product in 20 gallons of water and apply as directed:

Corn (volunteer) Shattercane
 Zea mays Sorghum bicolor

SHIELDED APPLICATORS

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "Weeds Controlled" section of this label.

Shielded applicators which apply the herbicide solution as a spray band should be calibrated on a broadcast equivalent rate and volume basis. To determine these:

| | | | | |
|-------------------------|---|------------------------------------|---|----------------------------|
| Band width in inches | × | Broadcast RATE | = | Herbicide BAND RATE |
| Row width in inches | | per acre | | per acre |
| Band width in inches | × | Broadcast VOLUME of solution | = | Band VOLUME of solution |
| Row width in inches | | per acre | | per acre |

Use nozzles that provide uniform coverage within the treated area. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.**

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

WIPER APPLICATORS

Wiper applicators include either roller or wick devices which physically wipe appropriate concentrations or amounts of this product directly onto the weed. Equipment must be properly maintained, and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to insure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

For Roller Applicators — Mix 1 gallon of this product in enough water to prepare 10 gallons of herbicide solution (10% solution). Apply this solution to peren-

mal weeds or annual broadleaf weeds listed in this "Wiper Applicators" section.

Mix 1 gallon of this product in enough water to prepare 20 gallons of herbicide solution (5% solution). Apply this solution to annual grasses listed in this "Wiper Applicators" section.

Roller speed should be maintained at 40 to 60 RPM.

For Wick or other Wiper Applicators—Mix 1 gallon of this product in 2 gallons of water to prepare a 2.5% solution. Apply this solution to weeds listed in this "Wiper Applicators" section.

In severe infestations, reduce equipment ground speed to insure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation.

When applied as recommended under the conditions described for "Wiper Applicators", this product CONTROLS the following weeds:

ANNUAL GRASSES

- | | |
|------------------|-----------------|
| Corn (volunteer) | Shattercane |
| Zea mays | Sorghum bicolor |
| Rye (common) | |
| Secale cereale | |

ANNUAL BROADLEAVES

- Spanishneedles
Bidens bipinnata

When applied as recommended under the conditions described for "Wiper Applicators", this product SUPPRESSES the following weeds:

ANNUAL BROADLEAVES

- | | |
|-------------------------|----------------------|
| Dog fennel | Ragweed (giant) |
| Eupatorium capifolium | Ambrosia trifida |
| Pigweed, Redroot | Sunflower |
| Amaranthus retroflexus | Helianthus annuus |
| Ragweed, (common) | Thistle (muski) |
| Ambrosia artemisiifolia | Cirsium nutans |
| | Yellowleaf |
| | Abutilon theophrasti |

PERENNIAL GRASSES

- | | |
|-------------------|-----------------------|
| Bermudagrass | Smutgrass |
| Cynodon dactylon | Eporchobolus poiretii |
| Guineagrass | Vaseygrass |
| Panicum maximum | Paspalum urvillei |
| Johnsongrass | |
| Sorghum halepense | |

PERENNIAL BROADLEAVES

- | | |
|---------------------|-------------------------|
| Dogbane (hemp) | Nightshade (silverleaf) |
| Apocynum cannabinum | Solanum elaeagnifolium |
| Milkweed | Thistle (Canada) |
| Asclepias syriaca | Cirsium arvense |

WEEDS CONTROLLED

Roundup herbicide controls many annual and perennial grasses and broadleaf weeds.

CONTROL OF ANNUAL WEEDS

Apply to actively growing grasses and broadleaf weeds. Use 1 quart of this product per acre if weeds are less than 6 inches tall. If weeds are over 6 inches tall, apply 1.5 quarts of this product per

acre. Allow at least 3 days after treatment before tillage. See "Directions for Use" for specific volumes of water.

When applied as recommended under the conditions described, this product WILL CONTROL the following ANNUAL WEEDS:

- | | |
|------------------------|--------------------------|
| Barley | Panicum |
| Hordeum vulgare | Panicum spp. |
| Bluegrass (annual) | Pennycress (field) |
| Poa annua | Thlaspi arvense |
| Brome (downy) | Pigweed, Redroot |
| Bromus tectorum | Amaranthus retroflexus |
| Cocklebur | Pigweed (smooth) |
| Xanthium pensylvanicum | Amaranthus hybridus |
| Corn (volunteer) | Ragweed (common) |
| Zea mays | Ambrosia artemisiifolia |
| Crabgrass | Ragweed (giant) |
| Digitaria spp. | Ambrosia trifida |
| Falseflax (smallweed) | Rye |
| Camelina microcarpa | Secale cereale |
| Fiddleneck | Ryegrass (Italian)* |
| Amisimckia spp. | Lolium multiflorum |
| Flexbane | Sandbar (field) |
| Ergeron spp. | Cenchrus spp. |
| Foxtail | Shattercane |
| Setaria spp. | Sorghum bicolor |
| Kochia | Smartweed (Pennsylvania) |
| Kochia scoparia | Polygonum |
| Lambsquarters (common) | Pennsylvanicum |
| Chenopodium album | Spanishneedles* |
| | Bidens bipinnata |

- | | |
|---------------------|----------------------|
| Lettuce (prickly) | Sunflower |
| Lactuca scariola | Helianthus annuus |
| Mustard (tansy) | Thistle (Russian) |
| Descurainia pinnata | Salsola kali |
| Mustard (lumble) | Yellowleaf |
| Sisymbrium irio | Abutilon theophrasti |
| Oats (wild) | Wheat (volunteer) |
| Avena fatua | Triticum aestivum |

*Apply 2 quarts of this product per acre.

Annual weeds generally will continue to germinate from seed throughout the growing season. Repeat treatments may be necessary to control later germinating weeds. Repeat treatments must be made prior to crop emergence.

CONTROL OF PERENNIAL WEEDS

Apply this product as follows to control or destroy most perennial weeds:

NOTE: If weeds have been mowed or tilled, do not treat until regrowth has reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

- | | |
|-----------------------|------------------|
| Alfalfa | Knapweed |
| Medicago sativa | Centaurea repens |
| Artichoke (Jerusalem) | Lantana |
| Helianthus tuberosus | Lantana camara |
| Bahiagrass | Milkweed |
| Paspalum notatum | Asclepias spp. |

- | | |
|----------------------|---------------------------|
| Bermudagrass | Muhly (wirestem) |
| Cynodon dactylon | Muhlenbergia frondosa |
| Bindweed (field) | Mullein (common) |
| Convolvulus arvensis | Verbascum thapsus |
| Bluegrass (Kentucky) | Napiergrass |
| Poa spp. | Pennisetum purpureum |
| Brackenfern | Nightshade (silverleaf) |
| Pteridium aquilinum | Solanum elaeagnifolium |
| Bromegrass (smooth) | Nutsedge (purple, yellow) |
| Bromus inermis | Cyperus rotundus |
| Cattail | Cyperus esculentus |
| Typha spp. | Orchardgrass |
| Clover (red) | Dactylis glomerata |
| Trifolium pratense | Paragrass |
| Clover (white) | Bracharia mutica |
| Trifolium repens | Quackgrass |
| Dallisgrass | Agropyron repens |
| Paspalum dilatatum | Reed canarygrass |
| Dandelion | Phalaris arundinacea |
| Taraxacum officinale | Ryegrass (perennial) |
| Dock (early) | Lolium perenne |
| Rumex crispus | Smartweed (swamp) |
| Dogbane (hemp) | Polygonum coccineum |
| Apocynum cannabinum | Texas Blueweed |
| Fescues | Helianthus ciliaris |
| Festuca spp. | Thistle (Canada) |
| Guineagrass | Cirsium arvense |
| Panicum maximum | Timothy |
| Horsenettle | Phleum pratense |
| Solanum carolinense | Torpedograss* |
| Horseradish | Panicum repens |
| Armoracia rusticana | Vaseygrass |
| Johnsongrass | Paspalum urvillei |
| Sorghum halepense | |

- | | |
|-------------------------|----------------------|
| Kikuyugrass | Wheatgrass (western) |
| Pennisetum clandestinum | Agropyron smithii |

*Partial control

Bermudagrass — Apply 5 quarts of this product per acre. Apply when bermudagrass is actively growing and when seed heads appear. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Brackenfern — Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1 1/2 percent solution with hand-held equipment. Apply to brackenfern after fronds are at least 10 inches long.

Canada Thistle — Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. Fall treatments must be applied before frost. Allow 3 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Field Bindweed/Silverleaf Nightshade/Texas Blueweed — Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively growing and is at or beyond full bloom. For silverleaf nightshade, best results can be achieved when application is made after berries are formed. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or

fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Guineagrass (*Panicum maximum*) — Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Hemp Dogbane / Knapweed / Horseradish — Apply 4 quarts of this product per acre. Apply when actively growing and most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Johnsongrass / Bromegrass (smooth) / Reed Canarygrass / Ryegrass (perennial) / Timothy / Wheatgrass (western) — Apply 2 to 3 quarts of this product per acre. For best results, apply to actively growing plants when most have reached the boot to head

stage of growth. When applying prior to the boot stage, less desirable control may be obtained. Allow johnsongrass to reach at least 18 inches average height. In the fall, apply before plants have turned brown. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Lantana — Apply this product as a 1 to 1½ percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.

Milkweed (common) — Apply 3 quarts of this product per acre. Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Nutsedge (purple/yellow) — Apply 3 quarts of this product per acre as a broadcast spray, or apply a 1½ percent solution from hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment.

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Repeat treatments will be required for long-term control. Wait 7 days after treatment before tillage. Tillage will stimulate further germination.

Quackgrass / Wirestem Muhly / Kikuyugrass — Apply 2 to 3 quarts of this product per acre. Spray when most quackgrass or wirestem muhly is at least 8 inches in height (3 or 4 leaf stage of growth), and actively growing. Do not fall plow or spring till prior to spring application. Allow 3 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Torpedograss (*Panicum repens*) — Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Other perennials listed on this label — Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. See "Directions for Use" and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

CONTROL OF WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS the following woody brush plants and trees:

| | |
|--------------------|--------------------|
| Alder | Oak*** |
| Ainus spp. | Quercus spp. |
| Berries* | Muliflora rose |
| Rubus spp. | Rosa multiflora |
| Elderberry | Poison Ivy |
| Sambucus spp. | Rhus radicans |
| Honeysuckle | Poison Oak |
| Lonicera spp. | Rhus toxicodendron |
| Kudzu | Trumpet creeper |
| Pueraria lobata | Campsis radicans |
| Maple** | Willow |
| Acer spp. | Salix spp. |

*Includes blackberry, dewberry and raspberry.

**Includes sugar maple and red maple.

***Includes red oak, white oak and Northern pin oak.

NOTE: If brush has been mowed or killed or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Allow 7 or more days after application before tillage, mowing or removal. See "Directions for Use," and "Mixing and Application" sections of this label for labeled uses and specific application instructions.

Repeat treatments may be necessary to control plants regenerating from underground parts or seed.

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Some autumn colors on undesirable deciduous species are acceptable provided no major leaf fall has occurred.

Apply this product as follows to control or destroy these listed plants and trees:

Alder (*Ainus* spp.) / Elderberry (*Sambucus* spp.) — Apply 3 to 4 quarts of this product as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment.

Apply when actively growing and at or after the full bloom stage of growth. Use the higher rate for larger plants and dense areas of growth. Best results are achieved when applied in late summer or fall prior to killing frost. Ensure thorough coverage when using hand-held equipment. Visual symptoms of control may not appear prior to frost or senescence with fall treatments.

Berries (*Rubus* spp.) — Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment. Apply when canes are actively growing and most are at or beyond the full bloom stage of growth. Use the higher rate for plants that have reached the woody stage of growth. Best results are achieved when application is made in late summer or fall after berries are formed. Fall treatments must be applied before a killing frost. This product's activity symptoms may not occur before frost with fall treatments. Ensure thorough coverage when using hand-held equipment.

Honeysuckle (*Lonicera* spp.) — Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment. Apply when plants are actively growing and are at or beyond the bloom stage of growth. Use the higher rate for plants that have reached the woody stage of growth. Ensure thorough coverage when using hand-held equipment.

Kudzu (*Pueraria lobata*) — Apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Apply product when vines are actively growing and most are at or beyond the early to full bloom stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Ensure thorough coverage when using hand-held equipment.

Maples (*Acer* spp.) / Oaks (*Quercus* spp.) — Apply as a 1 to 1½ percent solution with hand-held equipment. Apply product over top of actively growing plants. Apply when at least 40 percent of the new leaves are fully developed. Use the higher rate for large mature trees. Ensure thorough coverage when using hand-held equipment.

Muliflora Rose (*Rosa multiflora*) — Apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply product when canes are actively growing and most are at or beyond the early to full bloom stage of growth. Treatments should be made prior to leaf

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deterioration by leaf-feeding insects. Fall treatments must be applied before a killing frost. Symptoms may not occur before frost with fall treatments.

Ensure thorough coverage when using hand-held equipment. Spot treated areas in pastures must not be grazed by domestic livestock for a minimum of 8 weeks following application.

Poison Ivy (Rhus radicans)/Poison Oak (Rhus toxicodendron) — Apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with handheld equipment. Apply when plants are actively growing at or beyond the early to full bloom stage of growth. Best results are achieved when application is made in late summer after fruit is formed. Repeat applications may be required to maintain control. Fall treatments must be applied before a killing frost and before leaves lose green color. This product's activity symptoms may not occur before frost with fall treatments. Use the higher rate for plants that have reached the woody stage of growth.

Trumpet Creeper (Campsis radicans) — Apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment. Apply when vines are actively growing at or beyond the early to full bloom stage of growth. Best results are achieved when application is made in late summer or fall after fruit is formed. Fall treatments must be applied before a killing frost. This product's activity symptoms may

not occur before frost with fall treatments. Use the higher rate for plants that have reached the woody stage of growth.

Willow (Salix spp.) — Apply this product as a 1 percent solution with hand-held equipment. Apply when trees are actively growing and when foliage is full and well developed. Ensure thorough coverage when using hand-held equipment. For best results, apply in late summer or early fall. Fall treatments must be made before any fall color occurs.

DIRECTIONS FOR USE

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

NON-CROP USES

See "General Information" and "Mixing and Application Instructions" sections of this label for essential product performance information.

See the following NON-CROP SECTIONS for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

NOTE: If spraying areas adjacent to desirable plants, use a shield made of cardboard, sheet metal or plywood while spraying to help prevent spray from contacting foliage of desirable plants.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Roundup herbicide does not provide residual weed control. For subsequent weed control, follow a label approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

TANK MIXTURE

ROUNDUP® plus Banvel™

Use in **GROUND APPLICATION EQUIPMENT ONLY.**

Refer to the specific product labels for cautionary statements of all products used in these tank mixtures.

See the "Control of Perennial Weeds" part of the "Weeds Controlled" section of this label for the weed growth stage needed to obtain best results.

Apply 2 quarts of this product and 0.5 pounds of Banvel™ in 10 to 20 gallons of water per acre.

When applied as directed under the conditions described, this product plus Banvel™ will control the following perennial broadleaf weeds:

Bindweed (field) Thisle (Canada)
Convolvulus arvensis Cirsium arvense

Banvel is a trademark of the Kelco Chemical Company, Chicago, Ill.

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "Non-Crop Uses", under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumberyards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides, schools, storage areas, other public areas and similar industrial or non-crop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "Weeds Controlled" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any non-crop site specified on this label. See the "Selective Equipment" part of "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

FARMSTEAD WEED CONTROL

When applied as directed for "Non-Crop Uses," under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts, and for general non-selective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

ORNAMENTALS

NOTE: NOT RECOMMENDED FOR DOMESTIC APPLICATION EXCEPT BY PROFESSIONAL APPLICATORS.

When applied as directed for the conditions described for "Non-Crop Uses", this product controls undesirable vegetation listed on this label prior to planting ornamentals, in established ornamentals, and within and around greenhouses and shade-houses.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

Site Preparation — Following preplant applications of this product, any ornamental species may be planted. Precautions should be taken to protect non-target plants during site preparation applications.

Greenhouse/Shadehouse Use — This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Post Directed Spray — Use as a directed spray toward the base of established woody ornamental species listed below.

| | | |
|-------------------|----------------|-------|
| Arborvitae | Lilac | |
| Thuja spp. | Syringa spp. | ••••• |
| Azalea | Magnolia | ••••• |
| Rhododendron spp. | Magnolia spp. | ••••• |
| Borwick | Maple | ••••• |
| Buxus spp. | Acer spp. | ••••• |
| Crabapple | Oak | ••••• |
| Malus spp. | Quercus spp. | ••••• |
| Euonymus | Privet | • |
| Euonymus spp. | Ligustrum spp. | ••••• |
| Fir | Pine | ••••• |
| Abies spp. | Prunus spp. | ••••• |
| Pseudotsuga spp. | Spruce | ••••• |
| Hollies | Yew | ••••• |
| Ilex spp. | Taxus spp. | ••••• |

SILVICULTURAL SITES and RIGHTS-OF-WAY

When applied as directed for "Non-Crop Uses" under conditions described, this product controls undesirable vegetation listed on this label. This product also suppresses or controls undesirable vegetation listed on this label when applied at recommended rates for release of established coniferous species listed on this label.

For specific rates of application and instructions for control of various brush, annual and perennial weeds, see the "Weeds Controlled" section of this label. For specific rates of application for release of listed coniferous species, see the "Conifer Release" part of this section of the label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

Aerial Application — This product may be applied using aerial spray equipment for silvicultural site preparation, conifer release and rights-of-way treatments. See the "Application Equipment and Techniques" part of the "Mixing and Application" section of this label for information on how to properly spray this product by air.

Do not apply this product by air to rights-of-way sites in California.

In order to reduce the drift hazard to non-targeted plants and aquatic species when making aerial applications, maintain the following buffer zones:

1. Do not apply this product within 200 feet of any agricultural, horticultural, park, golf course, homestead or any populated areas.
 2. For applications using more than 2 quarts per acre of this product, do not apply within 125 feet of lakes, ponds and streams used for significant domestic purposes or angling.
 3. For applications using 2 quarts or less per acre of this product, do not apply within 75 feet of lakes, ponds and streams used for significant domestic purposes or angling.
4. When making applications on rights-of-way from 75 feet or more above ground level, do not apply within 400 feet of any agricultural, horticultural, park, golf course, homestead, populated areas, lakes, ponds and streams used for significant domestic purposes or angling.

Site Preparation — Following preplant applications of this product, any silvicultural species may be planted.

Post Directed Spray — In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

Conifer Release — Apply 1½ to 2 quarts of this product per acre for release of the following coniferous species:

| | |
|-----------------------|------------|
| Douglas fir | Pines |
| Pseudotsuga menziesii | Pinus spp. |
| Fir | Spruce |
| Abies spp. | Picea spp. |
| Hemlock | |
| Tsuga spp. | |

Applications must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf fall has occurred. Annual and perennial weeds or woody brush or trees listed on this label may be controlled or suppressed.

For release, apply only where conifers have been established for more than a year. Vegetation should not be disturbed prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late fall. Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth.

NOTE: This product is not recommended for use as an over-the-top broadcast spray in silviculture nurseries, ornamentals or Christmas Tree Plantations. **DO NOT USE FOR CONIFER RELEASE IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, FLORIDA, GEORGIA, LOUISIANA, MISSISSIPPI, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, TEXAS AND VIRGINIA.**

FOR USE IN CONIFER RELEASE WEST OF THE CREST OF THE CASCADE MOUNTAINS:

Spring Application — Apply 1 quart of this product per acre before bud swell of conifer for control of annual weeds listed on the label.

Fall Applications — Apply 1 to 1½ quarts of this product per acre before leaf abscission of deciduous species. Apply only if no major leaf fall has occurred. Some autumn colors are acceptable.

Apply 1 quart of this product per acre for release of western hemlock.

Injection and Frill Applications — Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Use this product without dilution and apply at least 1 ml (1/29 oz.) of herbicide solution for each 2 to 3 inches of trunk diameter breast height (DBH). Space applications evenly around the circumference of the trunk. Application should be made during periods of active growth and full leaf expansion.

This treatment **WILL CONTROL** the following woody species:

| | |
|-------------------------|------------------------|
| Gum (sweet) | Poplar |
| Liquidambar styraciflua | Populus spp. |
| Oak | Sycamore |
| Quercus spp. | Plantanus occidentalis |

This treatment **WILL SUPPRESS** the following woody species:

| | |
|-----------------|-------------|
| Dogwood | Hickory |
| Cornus spp. | Carya spp. |
| Gum (black) | Maple (red) |
| Nyssa sylvatica | Acer rubrum |

NOTE TO USER

This product must not be used in areas where adverse impact on Federally designated endangered/threatened plant or aquatic species is likely.

Prior to making applications the user of this product must determine that no such species are located in or immediately adjacent to the area to be treated.

TURFGRASSES AND GRASSES FOR SEED PRODUCTION

NOTE: NOT RECOMMENDED FOR DOMESTIC APPLICATION EXCEPT BY PROFESSIONAL APPLICATORS.

When applied as directed for "Non-Crop Uses" under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "Weeds Controlled" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall application provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or dethatching should be delayed for 2 days after application to allow proper translocation into underground plant parts.

TURFGRASSES

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" section of this label.

Where existing vegetation is growing under mowed turfgrass management, apply this product after mowing at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

GRASSES FOR SEED PRODUCTION

Apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

CROPPING SYSTEMS

See "General Information" and "Mixing and Application Instructions" sections of this label for essential product performance information.

See the following CROPPING SYSTEM SECTIONS for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from under ground parts or seed. Except as otherwise specified on this label, repeat treatments must be made before the crop emerges in accordance with the instructions of this label.

Except as otherwise specified in a Crop section of this label the combined total of all treatments must not exceed 8 quarts per acre of this product per year.

Do not plant subsequent crops other than those on the label for one year following application.

Do not graze treated cotton fields or feed treated cotton forage to livestock.

For other cropping systems do not feed or forage treated crops within 8 weeks after application.

Roundup herbicide does not provide residual weed control. For subsequent residual weed control follow a label approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

- BARLEY* KALE
BEANS (All) LENTILS
BEET GREENS LETTUCE
BEETS (Red, Sugar) MUSTARD GREENS
BROCCOLI OATS*
CABBAGE OKRA
CARROT ONION
CAULIFLOWER PEANUTS*
CHICORY PEAS (All)
CORN (All)* POTATO (Irish, Sweet)
COTTON* RADISH
FORAGE RICE**
GRASSES

- FORAGE SORGHUM
LEGUMES (Milo)*
HORSERADISH SOYBEANS*
JERUSALEM SPINACH
ARTICHOKE WHEAT*

*Spot treatment applications can be done in these crops.
**Do not treat rice fields or levees when the fields contain flood water.

When applied as directed for "Cropping Systems" under the conditions described, this product controls annual and perennial weeds listed on this label, prior to the emergence of these crops.

For dilution and rates of application using Boom or Hand-Held Equipment, see "Mixing and Application" and "Weeds Controlled" sections of this label.

Spot Treatment (Only those crops with "*" can be spot treated) — Applications in growing crops must be made prior to heading of small grains and milo, initial pod set in soybeans, silking of corn, boll opening on cotton and pegging of peanuts.

For dilution and rates of application using Boom or Hand-Held Equipment, see "Mixing and Application" and "Weeds Controlled" sections of this label.

NOTE: DO NOT TREAT MORE THAN 10% OF THE TOTAL FIELD AREA TO BE HARVESTED.

THE CROP RECEIVING SPRAY IN TREATED AREA WILL BE KILLED. TAKE CARE TO AVOID DRIFT OR SPRAY OUTSIDE TARGET AREA FOR THE SAME REASON.

Selective Equipment — This product may be applied through recirculating sprayers, shielded applicators, or wiper applicators in cotton and soybeans. Shielded and wiper applicators may also be used in tree crops and grapes.

See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

Allow at least the following time intervals between application and harvest:

Table with 2 columns: Crop, Interval. Cotton, Soybeans: 7 days; Grapes, Citrus, Apples: 14 days; Avocado, Cherry, Pear: 21 days; Nut Crops: 21 days.

ASPARAGUS

When applied as directed for "Cropping Systems" under the conditions described, this product controls weeds listed on this label in asparagus.

For specific rates of applications and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

Prior to Crop Emergence — Apply this product prior to crop emergence for the control of emerged labeled annual and perennial weeds. DO NOT APPLY WITHIN A WEEK BEFORE THE FIRST SPEARS EMERGE.

Post Harvest — Apply this product after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. Direct contact of the spray with the asparagus may result in serious crop injury.

NOTE: Select and use proper spray equipment for post-emergence post harvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

CRANBERRIES

Wiper applicators may be used in cranberries in accordance with instructions in this section.

See "General Information" and "Mixing and Application Instructions" sections of this label for essential product performance information.

See the "Selective Equipment" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

For Wick or other Wiper Applicators — Mix one gallon of this product in 4 gallons of water to prepare a 20% solution. Apply the solution to emerged weeds.

Apply after cranberry fruit set and no later than 30 days before harvest.

In severe infestations, reduce equipment ground speed to insure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation.

FALLOW AND REDUCED TILLAGE SYSTEMS

EMERGED ANNUAL WEEDS

Use this product in fallow and reduced tillage systems prior to the emergence of lentils, peas, or crops listed in this label. Refer to specific product labels for crop rotation restrictions of all products recommended for tank mixing as outlined in this section.

This product does not provide residual weed control, therefore, delay herbicide applications until maximum emergence of annual weeds, but before weeds

are greater than 6 inches tall. Reduced control may be observed when application is made to weeds which have been cut to less than 6 inches tall.

Avoid spraying when weeds are subject to moisture stress, when dust is on foliage, or when straw canopy covers the weeds.

This product may be applied using ground or aerial spray equipment for weed control on fallow lands or small-grain stubble. See the "Application Equipment and Techniques" section of this label for instructions.

For Ground Applications: Apply in 3 to 10 gallons of water per acre.

For Aerial Applications: Apply in 3 to 5 gallons of water per acre.

Mixing Instructions: Fill spray tank with the required amount of water. Add the proper amounts of herbicide and surfactant, and mix well before using.

SPRAY SOLUTION RATE TABLE

| Volume gallons/acre | Nonionic Surfactant Rate fl. oz./acre |
|------------------------|--|
| 3 | 2.0 |
| 5* | 3.0 |
| 10 | 6.5 |

*Maximum aerial application rate.

When applied as directed under the conditions and rates described for fallow and reduced tillage systems, this product plus an approved agricultural

nonionic surfactant will control the listed, emerged annual weeds:

Apply $\frac{1}{2}$ pint (12 fl. oz.) of this product plus 0.5% by volume nonionic surfactant per acre to control the following emerged annual weeds:

| | |
|---------------------|-------------------|
| Brome (downy) | Mustard (wild) |
| Bromus tectorum | Brassica kaber |
| Foxtails | Wheat |
| Setaria spp. | Triticum aestivum |
| Mustard (lansy) | |
| Descurainia pinnata | |

Apply 1 pint of this product plus 0.5% by volume nonionic surfactant per acre to control the additional emerged annual weeds:

| | |
|-----------------------|--------------------|
| Barley | Pennycress (field) |
| Hordeum vulgare | Fanweed |
| Fabeflax (smallseed) | Thlaspi arvense |
| Camelina microcarpa | Rye |
| Mustard (tumble) | Secale cereale |
| Sisymbrium altissimum | Ryegrass (annual) |
| Oats (wild) | Lolium multiflorum |
| Avena fatua | |

- Tank Mixtures ■
- ROUNDUP® plus NONIONIC SURFACTANT ■
plus BANVEL™
- ROUNDUP® plus NONIONIC SURFACTANT ■
plus 2,4-D AMINE

The addition of Banvel™ in a mixture with this product may provide short-term residual control of

selected weed species. Some crop injury may occur if Banvel™ is applied within 45 days of planting. For use instructions, refer to Banvel™ label.

These recommended tank mixtures may be applied using ground or aerial spray equipment. See the "Application Equipment and Techniques" section of this label for instructions.

Mixing Instructions: Fill the spray tank with the required amount of water. Add the proper amounts of herbicide and surfactant, and mix well before using.

When applied as directed under the conditions and rates described for EMERGED ANNUAL WEEDS in the "Tank Mixture" portion of this section, this product plus Banvel™ or 2,4-D amine plus nonionic surfactant will control the additional listed annual broadleaf weeds:

Apply $\frac{1}{2}$ pint (12 fl. oz.) of this product plus 0.25 lb. a.i. of Banvel plus 0.5% by volume nonionic surfactant per acre to control the following broadleaf weeds:

| | |
|------------------------|-------------------|
| Kochia* | Lambsquarters |
| Kochia scoparia | Chenopodium album |
| Pigweed, Redroot | |
| Amaranthus retroflexus | |

*Controlled with Banvel™ tank mixture only.

Apply 1 pint of this product plus 0.25 lb. a.i. of Banvel or 0.5 lb. a.e. of 2,4-D amine plus 0.5% by

volume nonionic surfactant per acre will control the additional annual broadleaf weeds:

| | |
|-------------------|-------------------|
| Lettuce (prickly) | Thistle (Russian) |
| Lactuca serriola | Salsola kali |

EMERGED PERENNIAL WEEDS

When applied as directed under the conditions described, this product plus Banvel™ or 2,4-D amine will control the following perennial broadleaf weeds:

| | |
|----------------------|------------------|
| Bindweed (field) | Thistle (Canada) |
| Convolvulus arvensis | Cirsium arvense |

- Tank Mixture ■
- ROUNDUP® plus BANVEL™ ■
- ROUNDUP® plus 2,4-D AMINE ■

PRIOR TO PLANTING SMALL GRAINS.
Use in GROUND APPLICATION EQUIPMENT ONLY.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures.

See the "Control of Perennial Weeds" part of the "Weeds Controlled" Section of this label for the weed growth stage needed to obtain best results.

Apply 2 quarts of this product and 0.5 to 1 pound a.i. of either Banvel™ or 2,4-D amine in 10 to 20 gallons of water per acre. Some crop injury may occur if Banvel™ is applied within 45 days of planting.

Banvel™ is a trademark of the Velocid Chemical Company, Chicago, Ill.

RESIDUAL MIXTURES FOR ANNUAL WEEDS

When applied as recommended under the conditions described, these tank mixtures control the emerged annual weeds listed in the "Fallow and Reduced Tillage Systems Weed Control" portion of this section of the label. Refer to specific weed control guides of the products tank mixed with Roundup for additional listings of weeds controlled preemergence on fallow land or small-grain stubble.

Apply these tank mixes in 10 to 40 gallons of water per acre. Apply $\frac{1}{2}$ pint of this product and 0.5% by volume nonionic surfactant to the label recommended rates of the approved tank mixtures. Refer to the specific product labels for use rates based on soil type and soil organic matter. For mixing instructions, see the "Mixing and Application Instructions" section of this label.

Refer to the specific product labels for crop rotation restrictions, and cautionary statements of all products used in these tank mixtures.

Use these tank mixture combinations in ground equipment only for weed control on fallow or small-grain stubble prior to the planting of WHEAT.

- Roundup® plus Nonionic Surfactant, plus Bladex™
- Roundup® plus Nonionic Surfactant, plus Lexone™

Roundup® plus Nonionic Surfactant, plus Sencor™
Use of these tank mixtures may result in reduced activity of Roundup herbicide.

Bladex is a trademark of the Shell Chemical Company, Modesto, Calif.

Sencor is a trademark of the parent company of Farbenfabrik Bayer GmbH, Leverkusen.

Lexone is a registered trademark of E.I. du Pont de Nemours and Company, Wilmington, Del.

SUGARCANE

When applied as directed for "Cropping Systems," under the condition described, this product controls those emerged annual and perennial weeds listed on this label growing in or around sugarcane in fields to be planted to sugarcane. This product will also control undesirable sugarcane.

NOTE: Where repeat treatments are necessary, do not exceed a total of 10.0 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals, or ponds containing water to be used for irrigation.

Broadcast Treatment — Apply this product in 10 to 40 gallons of water per acre on emerged weeds growing in fields to be planted to sugarcane.

For specific rates of application and instructions for control of various annual and perennial weeds see the "Weeds Controlled" section of this label.

For removal of last stubble or ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of

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water per acre to new growth having at least 7 or more new leaves. Allow 7 or more days after application before tillage.

Spot Treatment in or Around Sugarcane Fields — For dilution and rates of application using Hand-Held Equipment, see "Mixing and Application" and "Weeds Controlled" sections of this label.

For control of volunteer or diseased sugarcane, make a 1% solution of this product in water and spray to wet the foliage of vegetation to be controlled.

NOTE: When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

Avoid spray contact with healthy cane plants since severe damage or destruction may result.

TANK MIXTURES
Minimum Tillage Systems
CORN

When applied as recommended under the conditions described, these tank mixtures control many emerged weeds, and give preemergence control of many annual weeds when corn will be planted directly into a cover crop, established sod, or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures. Lasso® EC herbicide may be substituted for Lasso® herbicide in these tank mixtures. For mixing instructions, see

the "Mixing and Application Instructions" section of this label.

■ **ROUNDUP® plus LASSO®** ■

Do not use the following tank mixtures on sand or loamy sand soils.

■ **ROUNDUP® plus LASSO® plus ATRAZINE** ■

or

■ **ROUNDUP® plus LASSO® plus BLADEX™** ■

or

■ **ROUNDUP® plus LASSO® plus PRINCEP™** ■

or

■ **ROUNDUP® plus ATRAZINE plus PRINCEP™** ■

Apply these tank mixtures in 10 to 40 gallons of water per acre after planting or during planting in such manner that the planter does not disturb the treated soil. Do not apply these mixtures after crop emergence.

REDUCED CONTROL MAY RESULT IF THIS PRODUCT IS USED IN TANK MIXTURES CONTAINING FLUID FERTILIZERS.

CONTROL OF EMERGED WEEDS

Annual Weeds — Apply to actively growing grasses and broadleaf weeds. Use 1 quart of Roundup herbicide per acre in these tank mixtures if weeds are less than 6 inches tall. If weeds are over 6 inches tall, apply 1.5 quarts of this product per acre. For emerged annual weeds controlled, see the "Weeds Controlled" section of this label.

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Perennial Weeds — At normal application dates in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "General Information" section of this label for the proper stage of growth for perennial weeds.

Use of 2 to 4 quarts of Roundup herbicide per acre in these tank mixtures, under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "Weeds Controlled" section of this label. To obtain control, follow recommendations on this label for stage of growth and rate of application for specific perennial weeds. To obtain the desired stage of growth, it may be necessary to apply Roundup herbicide alone in the late summer or fall and then follow with a label approved seedling weed control program at planting.

NOTE: When using these tank mixtures, do not exceed 4 quarts of Roundup herbicide per acre.

USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT RECOMMENDED. For bermudagrass control, follow the instructions under "Control of Perennial Weeds" section of this label and then use a label approved seedling weed control program in a minimum tillage or conventional tillage system. For johnsongrass control, follow the instructions under the "Control of Perennial Weeds" section of the label, and then use a label approved seedling weed control program with conventional tillage.

PREEMERGENCE WEED CONTROL

■ **LASSO®** ■

For weeds controlled preemergence, see the "Weed Control with Lasso®" section of the label for Lasso® herbicide.

See the following table for recommended rates of Lasso in this tank mixture with Roundup® herbicide on various soil types:

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-------------------------|-------------------|
| | Lasso® (quarts) | Roundup® (quarts) |
| COARSE | 2.5 to 3 | 1 to 1.5 |
| MEDIUM | 3 | 1.5 to 2 |
| FINE | 3.5 to 4 | 2 to 2.5 |

*Refer to the Soil Texture section of the label to determine the corresponding soil texture group for the soil to be treated.

Use the higher rate of Lasso® herbicide in the recommended ranges in areas of heavy grass infestation, or when organic matter content is 3 percent or more.

*Lasso is a registered trademark of Monsanto Company.

■ **LASSO® plus ATRAZINE** ■

For weeds controlled preemergence, see the "Weed Control with Lasso® and Lasso plus atrazine (Tank Mixture)" sections of the label for Lasso herbicide.

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See the following table for recommended rates of Lasso plus atrazine 80W in this tank mixture with Roundup herbicide on various soil types:

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-------------------------|-------------------------|
| | Lasso® (Quarts) | atrazine 80W** (Pounds) |
| COARSE | 2 to 2.5 | 1.25 to 1.5 |
| Sandy Loam only | 2 to 2.5 | 1.5 to 2 |
| MEDIUM | 2.5 to 3 | 2 to 2.5 |
| FINE | 2.5 to 3 | 2 to 2.5 |

*Refer to the Soil Texture section of the label to determine the corresponding soil texture group for the soil to be treated.

**When using atrazine 4L or AAtrex™ 4LC use equivalent rates. One quart equals 1.25 pound of atrazine 80W.

Use the higher rate of Lasso® herbicide in the recommended ranges in areas of heavy grass infestation or when fall panicum or crabgrass will be present.

Use the higher rate of atrazine in the recommended ranges on soils with greater than 3% organic matter.

■ **LASSO® plus BLADEX™** ■

For weeds controlled preemergence, see the "Weed Control with Lasso and Lasso plus Bladex (Tank Mixture)" sections of the label for Lasso herbicide.

See the following table for recommended rates of Lasso plus Bladex in this tank mixture with Roundup herbicide on various soil types.

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-------------------------|---------------------|
| | Lasso® (quarts) | Bladex™ 4L (quarts) |
| COARSE | 2 to 2.5 | 1 to 1.5 |
| MEDIUM | 2.5 to 3 | 1.5 to 2 |
| FINE | 2.5 to 3 | 2 to 2.5 |

*Refer to the Soil Texture section of the label to determine the corresponding soil texture group for the soil to be treated.

**When using Bladex 80W use equivalent rates. One quart Bladex 4L equals 1.25 lb of Bladex 80W.

Use the higher rate of Lasso® herbicide in the recommended ranges in areas of heavy grass infestation or when fall panicum or crabgrass will be present.

Use the higher rate of Bladex in the recommended ranges on soils with greater than 3% organic matter.

NOTE: Do not use this mixture on sand or loamy sand soils with less than 2% organic matter.

™Bladex is a trademark of the Sta. Pauli Company.

■ **LASSO® plus PRINCEP™** ■

For weeds controlled preemergence see the "Weed Control" sections of the labels for Lasso and Princep.

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See the following table for recommended rates of Lasso plus Princep in this tank mixture with Roundup herbicide on various soil types

Lasso[®] plus Princep[™] 80W

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-----------------------------|------------------------|
| | Lasso [®] (Quarts) | Princep 80W** (Pounds) |
| COARSE | | |
| Sandy Loam only | 2 to 2.5 | 1.25 to 1.5 |
| MEDIUM | 2.5 to 3 | 1.5 to 2 |
| FINE | 2.5 to 3 | 2 to 2.5 |

*Refer to the Soil Texture section of the label to determine the corresponding soil texture group for the soil to be treated.

**When using Princep 4L use equivalent rates. One quart equals 1.25 pounds of Princep 80W.

Use the higher rate of Lasso[®] herbicide in the recommended ranges in areas of heavy grass infestation or when fall panicum or crabgrass will be present.

Use the higher rate of Princep herbicide in the recommended ranges on soils with greater than 3% organic matter.

*Lasso is a registered trademark of Monsanto Company.

**Princep is a registered trademark of Ciba-Geigy Corporation.

***Aatrex is a registered trademark of Ciba-Geigy Corporation.

ATRAZINE plus PRINCEP[™]

For weeds controlled preemergence see the "Weed Control" sections of the labels for atrazine and Princep.

See the following table for recommended rates of atrazine 80W and Princep 80W in this tank mixture with Roundup herbicide on various soil types.

Atrazine 80W plus Princep[™] 80W

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-------------------------|------------------------|
| | atrazine 80W** (Pounds) | Princep 80W** (Pounds) |
| COARSE | | |
| Sandy Loam only | 1.25 | 1.25 |
| MEDIUM | 1.25 to 1.75 | 1.25 to 1.75 |
| FINE | 1.5 to 2 | 1.5 to 2 |

*Refer to the Soil Texture of the label to determine the corresponding soil texture group for the soil to be treated.

**When using atrazine 4L, Aatrex 4LC or Princep 4L use equivalent rates. One quart equals 1.25 pounds of atrazine 80W or Princep 80W.

Use the higher rate of these products in the recommended ranges on soils with greater than 3% organic matter.

***Princep is a registered trademark of Ciba-Geigy Corporation.

****Aatrex is a registered trademark of Ciba-Geigy Corporation.

TANK MIXTURES
Minimum Tillage Systems
SOYBEANS

When applied as directed under the conditions described, these tank mixtures control many emerged annual weeds, suppress many emerged perennial weeds and give 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. These tank mixtures will not control regrowth from perennial weeds.

Refer to specific product labels for crop rotation restriction and cautionary statements of all products used in these tank mixtures. Lasso[®] EC herbicide may be substituted for Lasso[®] herbicide in these tank mixtures. For mixing instructions, see the "Mixing and Application Instructions" section of this label.

- **ROUNDUP[®] plus LASSO[®]**
- or
- **ROUNDUP[®] plus LASSO[®] plus LOROX[™]**
- or
- **ROUNDUP[®] plus LASSO[®] plus LEXONE[™]**
- or
- **ROUNDUP[®] plus LASSO[®] plus SENCOR[™]**

Apply these tank mixtures in 10 to 40 gallons of water per acre after planting or during planting in such manner that the planter does not disturb the

treated soil. Do not apply these mixtures after crop emergence.

REDUCED CONTROL MAY RESULT IF THIS PRODUCT IS USED IN TANK MIXTURES CONTAINING FLUID FERTILIZERS.

CONTROL OF EMERGED WEEDS

Annual Weeds—Apply to actively growing grasses and broadleaf weeds. Use 1 quart of Roundup herbicide per acre in these tank mixtures if weeds are less than 6 inches tall. If weeds are over 6 inches tall, apply 1.5 quarts of this product per acre. For emerged annual weeds controlled, see the "Weeds Controlled" section of this label.

Perennial Weeds—At normal application dates in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "General Information" section of this label for the proper stage of growth for perennial weeds. Use of 2 to 4 quarts of Roundup herbicide per acre in these tank mixtures under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "Weeds Controlled" section of this label. To obtain control, follow recommendations on this label for stage of growth and rate of application for specific perennial weeds. To obtain the desired stage of growth, it may be necessary to apply Roundup herbicide alone in the late summer or fall and then follow with a label approved seedling weed control program at planting.

NOTE: When using these tank mixtures, do not exceed 4 quarts of Roundup herbicide per acre.

USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT RECOMMENDED. For bermudagrass control, follow the instructions under "Control of Perennial Weeds" section of this label and then use a label approved seedling weed control program in a minimum tillage or conventional tillage system. For johnsongrass control, follow the instructions under the "Control of Perennial Weeds" section of the label, and then use a label approved seedling weed control program with conventional tillage.

PREEMERGENCE WEED CONTROL

LASSO[®]

For weeds controlled preemergence, see the "Weed Control" with Lasso[®] section of the label for Lasso herbicide.

See the following table for recommended rates of Lasso in this tank mixture on various soil types:

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-----------------------------|--|
| | Lasso [®] (quarts) | |
| COARSE | 2.5 to 3 | |
| MEDIUM | 3 | |
| FINE | 3.5 to 4 | |

*Refer to the Soil Texture section of the label to determine the corresponding soil texture group for the soil to be treated.

Use the higher rate of Lasso[®] herbicide in the recommended ranges in areas of heavy grass infestation, or when organic matter content is 3 percent or more.

*Lasso is a registered trademark of Monsanto Company.

LASSO[®] plus LOROX[™]

For weeds controlled preemergence, see the "Weed Control" with Lasso[®] and Lasso plus Lorox 50WP sections of the label for Lasso herbicide.

See the following table for recommended rates of Lasso plus Lorox 50WP in this tank mixture with Roundup herbicide on various soil types.

Lasso[®] plus Lorox

| SOIL TEXTURE GROUP* | BROADCAST RATE PER ACRE | |
|---------------------|-----------------------------|---------------------|
| | Lasso [®] (Quarts) | Lorox 50WP (Pounds) |
| COARSE | | |
| Sandy Loam only | 2 to 2.5 | 1 to 1.5 |
| MEDIUM | 2.5 to 3 | 1.5 to 2 |
| FINE | 2.5 to 3 | 2 to 3 |

*Refer to the Soil Texture section of the label to determine the corresponding soil texture group for the soil to be treated.

Use the higher rate of Lasso in the recommended ranges in areas of heavy grass infestation or when fall panicum or crabgrass will be present.

Use the higher rate of Lasso 50WP in the recommended ranges on soils with greater than 3% organic matter.

Do not use this mixture on sand or foamy sand or on soil with less than 1% organic matter as crop injury from Lasso may occur.

[†]Lexone is a registered trademark of E. I. du Pont de Nemours and Company.

^{*}Lasso is a registered trademark of Monsanto Company.

■ LASSO[®] plus LEXONE[™]
or
■ LASSO[®] plus SENCOR[™]

For weeds controlled preemergence, see the "Weed Control with Lasso" and Lasso plus Lexone or Sencor" sections of the label for Lasso herbicide.

See the following table for recommended rates of Lasso plus Lexone 50WP or Lasso plus Sencor 50WP in this tank mixture on various soil types.

Lasso[®] plus Lexone[™] 50WP or
Lasso[®] plus Sencor[™] 50WP

BROADCAST RATE PER ACRE

| SOIL TEXTURE GROUP* | Lexone 50WP** or Sencor 50WP** | |
|------------------------|--------------------------------------|-------------|
| | Lasso [®] (Quarts) | (Pounds) |
| COARSE | | |
| Sandy loam only | 2 to 2.5 | 0.5 to 0.75 |
| MEDIUM | 2.5 to 3 | 0.75 to 1 |
| FINE | 2.5 to 3 | 1 to 1.5*** |

*Refer to the Soil Texture Section of this label to determine the corresponding soil texture group for the soil to be treated.

**When using Lexone 4L or Sencor 4 Flowable use equivalent rates. One quart equals 2 pounds of Lexone 50WP or Sencor 50WP.

***On the silty clay or heavy clay soils of the Mississippi Delta, use 1.5 to 2 pounds of Lexone or Sencor per acre.

Use the higher rate of Lasso herbicide in the recommended ranges in areas of heavy grass infestations or when fall panicum or crabgrass will be present.

Use the higher rate of Lexone or Sencor herbicides in the recommended ranges on soils with greater than 2% organic matter.

Do not use this mixture on sand or foamy sand soils as crop injury from Lexone or Sencor may occur.

Do not use on muck soils.

Do not apply on alkaline soils with a pH of more than 7.4.

Crop injury may occur if any atrazine was applied on the soil the year before use of this Lexone or Sencor tank mixture.

DO NOT REPLANT CROPS OTHER THAN SOYBEANS FOR 120 DAYS AFTER APPLICATION.

^{*}Lasso is a registered trademark of Monsanto Company.

[†]Lexone is a registered trademark of E. I. du Pont de Nemours and Company.

^{**}Lexone is a registered trademark of E. I. du Pont de Nemours and Company.

^{††}Sencor is a registered trademark of the parent company of Farbenfabriken Bayer GmbH, Leverkusen.

PRE-HARVEST APPLICATIONS

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of COTTON.

For specific rates of application and instructions for control of various annual and perennial weeds see the "Weeds Controlled" section of this label. Ground Applications — Apply this product in 10 to 40 gallons of water per acre on emerged labeled annual and perennial weeds.

Aerial Applications — Apply this product in 3 to 10 gallons of water per acre using aerial spray equipment.

ment for pre-harvest weed control on cotton. See the "Application Equipment and Techniques" part of the "Mixing and Application" section of this label for information on how to properly apply this product by air.

Timing of Application — Apply this product for pre-harvest weed control after 80% of the cotton bolls have opened.

NOTE: DO NOT APPLY TO CROPS GROWN FOR SEED.

Allow a minimum of 7 days between application and harvest.

Do not feed or graze treated areas within 8 weeks after application.

PERENNIAL CROPS

This product is recommended for weed control in established groves, vineyards, or orchards, or for site preparation prior to transplanting crops listed in this section. Applications may be made with boom equipment, shielded sprayers, hand held and high volume wands, hoses, or nozzled guns, or with wiper applicator equipment, except as directed in this section. See the "Application Equipment and Techniques" section of this label for specific information on use of equipment.

NOTE

Repeat treatments may be necessary to control weeds originating from underground parts of un-

treated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, follow a program using residual herbicides or use repeated applications of this product. Do not apply more than 106 quarts of this product per acre per year.

EXTREME CARE MUST BE EXERCISED 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. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

TREE CROPS

Citrus*: grapefruit, kumquat, lemon, lime, orange, tangelo, tangerine.

Nuts**: almond, filbert, macadamia, pecan, pistachio, walnut.

Pome Fruit*: apple, pear.

Stone Fruit*: for peaches, plums/prunes, and apricots in Arizona, California, Colorado, Oregon, Idaho, North Dakota, Utah, Texas, Oklahoma and Washington only, any application equipment listed in this section may be used.

For all other states, peaches, plums/prunes, red tartans or apricots may be treated with wick wipers only.

For cherries, any application equipment listed in this section may be used in any state.

Tropical Fruit: avocado*, coffee*, guava, mango*, papaya. Allow a minimum of 1 day between last application and harvest of guava and papaya. In coffee delay applications 3 months after transplanting to allow the new coffee plant to become established.

NOTE:

*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.

VINE CROPS*

Grapes*: any variety of table, wine, or raisin grape may be treated with any equipment listed in this section. Applications should not be made when green shoots, canes, or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the start of bloom stage of grapes to avoid injury.

NOTE:

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

CALIFORNIA

Roundup® herbicide has been approved by the U.S. Environmental Protection Agency for the uses, crops and sites listed in this label. Approval of the items listed below is pending under the State of California registration requirements.

These use conditions, crops and sites may not be treated with this product in California until approvals received:

- Application in wind speeds in excess of 10 miles per hour
- Selective equipment in tree fruits, nuts and grapes
- Suppression of dog fennel, ragweed (common), thistle (musk) and velvetleaf with selective equipment
- Suppression of Bermudagrass, guineagrass, smutgrass, thistle (Canada) and vasegrass with selective equipment
- Control of barley, cocklebur, falseflax (smallweed), fiddleneck, mustard (stansy, tumble), oats, Italian ryegrass, pennycress (field), rye, artichoke (Jerusalem), dandelion, horseradish, knapweed, nutsedge (purp., yellow)
- Control of corn (volunteer), rice (common), shatter-cane and Spanishneedles with selective equipment

- Cropping systems — beet greens, beets (red, sugar), broccoli, cabbage, carrot, cauliflower, chikory, kale, lentils, lettuce, mustard greens, okra, onion, peanuts, potato (Irish sweet), forage grasses, forage legumes (except alfalfa), horseradish, artichoke (Jerusalem), radish, rice and spinach
- Fallow and reduced tillage systems (except as listed on pages 79 through 81)
- Roundup plus Banvel (non-crop)
- Applications in less than 20 gallons of carrier per acre
- Spot treatment on peanuts
- Injection and lull applications
- Use within and around greenhouses and shadehouses
- Use in guava, mango, papaya, coffee and stone fruit
- Use as post directed spray to *Pseudotsuga* spp

ROUNDUP® Herbicide Complete Directions for Use

in NON-CROP AREAS such as:

- Industrial, Recreational and Public areas
- Farmstead Weed Control
- Ornamentals
- Structural Sites and Rights-of-Way
- Turfgrasses and Grasses for Seed Production

in CROPPING SYSTEMS:

| | | |
|-----------------------|----------------|----------------------|
| Artichoke (Jerusalem) | Corn | Okra |
| Asparagus | Cotton | Onion |
| Barley | Cranberries | Peanuts |
| Beans Edible (all) | Forage Grasses | Peas (English green) |
| Beet Greens | Forage Legumes | Potato (Irish sweet) |
| Beets (red, sugar) | Horseradish | Radish |
| Broccoli | Kale | Rice |
| Cabbage | Lentils | Sorghum (milo) |
| Carrot | Lettuce | Soybeans |
| Cauliflower | Mustard Greens | Spinach |
| Chikory | Oats | Sugarcane |
| | | Wheat |

Fallow and Reduced Tillage Systems

in TREE CROPS

| | | |
|--------------------|-------------------------|----------------------------|
| Citrus (as listed) | Pome Fruit (as listed) | Tropical Fruit (as listed) |
| Cherry | | |
| Nuts (as listed) | Stone Fruit (as listed) | |

in GRAPES — Wine, Table and Raisin

in MINIMUM TILLAGE SYSTEMS for Corn, Soybeans

For use of this product in California see pages 78 and 79

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