

PM 25

524-518

12/16/99

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Roundup ProBlend™
Herbicide by Monsanto

The complete broad spectrum postemergence professional herbicide for industrial, turf and ornamental weed control.

Complete Directions for Use

EPA Reg. No. 524-518

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Roundup ProBlend™ is a trademark of Monsanto Company.

Read the entire label before using this product.

Use only according to label instructions.

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

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

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

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

Container Label Statement:

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. IT IS INTENDED THAT REPACKAGING BE ONLY IN ACCORDANCE WITH A MONSANTO REPACKAGING OR TOLL REPACKAGING AGREEMENT.

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1.0 INGREDIENTS

ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt	62.0 %
INERT INGREDIENTS	38.0 %
	100.0%

*Contains 769 grams per litre or 6.42 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT,
CALL TOLL-FREE,
1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL
ASSISTANCE,
CALL COLLECT, DAY OR NIGHT,
(314)-694-4000

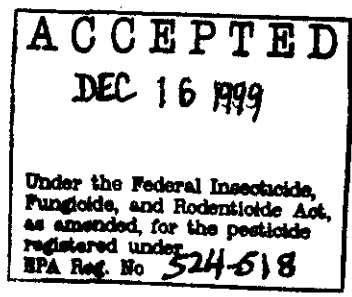
3.0 PRECAUTIONARY STATEMENTS

3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.



Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

User Safety Recommendations:

Users should:

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

3.2 Environmental Hazards

Do not contaminate water when disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.

In case of: SPILL or LEAK, soak up and remove to a landfill.

3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or 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.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

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

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (40 CFR Part 170) for agricultural pesticides. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

Container Label Statements:

(ALL CONTAINERS)

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed.

(FOR REFILLABLE PORTABLE CONTAINERS)
Do not reuse this container except for refill in accordance with a valid Monsanto Repackaging or Toll Repackaging Agreement. If not refilled or returned to the authorized repackaging facility, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(FOR BULK CONTAINERS)
Triple rinse emptied bulk container. Then offer for recycling or reconditioning, or dispose of in a manner approved by state and local authorities.

(FOR PLASTIC 1-WAY CONTAINERS & BOTTLES)
Do not reuse container. Triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(FOR DRUMS)
Do not reuse container. Return container per the Monsanto container return program. If not returned, triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

5.0 GENERAL INFORMATION

Product Description: This product is a postemergent, systemic herbicide with no soil residual activity. It gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. This product requires use of a nonionic surfactant. When using this product, mix 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution. The surfactant should contain at least 70 percent active ingredient. See section 6.2 **Surfactant** of this label for additional information.

Environmental Fate: When this product comes in contact with the soil (on the soil surface or as suspended soil or sediment in water) it is bound to soil particles. When used in accordance with label directions, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. Under recommended use conditions, the strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil microflora.

Stage of Growth: Annual weeds are easiest to control when they are small. Apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Best control of most perennial weeds, brush and trees is obtained after they reach the seedhead or flower formation stage of growth. For non-flowering plants, best results are obtained when the plants reach

a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the recommended range.

Always use the higher rate of this product per acre within the recommended range when vegetation growth is heavy or dense and growing in undisturbed areas.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Reduced control may result under poor growing conditions such as drought stress, disease or insect damage. Reduced results may also occur when treating vegetation heavily covered with dust.

Time to Symptoms: 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. Symptoms on woody plants and trees may not occur for 30 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. 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.

Mode of Action in Plants: The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds, woody brush and trees that have been disturbed through tillage, mowing, grazing, or cutting. After any site disturbance, allow sufficient regrowth of weeds, brush and trees to recommended stage of growth for treatment before making foliar treatments.

Rainfastness: Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide.

Volatility: Roundup ProBlend is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

Toxicology: Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short-term toxicity studies. Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long-term health effects.

Tank Mixing: This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Tank mixtures with this product may also be used to increase the spectrum of weeds, woody brush and trees controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all other information on the labels of all products used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this

label. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

Grazing Restrictions for Utility Rights-of-Way: This product may be used to treat undesirable vegetation in rights of way that pass through pastures and rangeland and on forestry sites that are being grazed. For tank mix applications, comply with all restrictions appearing on the tank mix product label.

There are no grazing restrictions for the following applications of this product:

- Where the spray can be directed onto undesirable weeds, woody brush and trees, such as in handgun spray-to-wet or low volume directed spray treatments.
- For tree injection or frill application and for cut stump treatments.

For broadcast applications, observe the following restrictions:

- For application rates of greater than 3 $\frac{3}{4}$ but not to exceed 6 $\frac{1}{4}$ quarts per acre, no more than 15 percent of the available grazing area may be treated.
- For application rates that do not exceed 3 $\frac{3}{4}$ quarts per acre, no more than 25 percent of the available grazing area may be treated.
- All restriction apply to lactating dairy animals. No other restriction apply to lactating dairy animals.

These recommendations do not apply to rangeland outside of utility rights-of-way.

Annual Maximum Use Rate: This product has no herbicidal or residual activity in the soil. If repeat treatments are necessary the combined total of all treatments must not exceed 6.7 quarts of this product per acre per year.

ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

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 onto desirable vegetation since minute quantities of this product 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 increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. 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.

6.0 MIXING

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

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

6.2 Surfactant

This product requires use of a nonionic surfactant. When using this product, mix 0.5% or more of a nonionic surfactant. Increasing the rate of surfactant up to 2 1/2% may enhance performance on hard to control woody brush, trees and vines. Other examples of when to use more than 2 1/2% surfactant include, but are not limited to: high water volumes, adverse environmental conditions, plants under stress, surfactants with less than 70% active ingredient, tank mixes, etc.

For forestry conifer release the use of Entry II surfactant is recommended to avoid possible injury with this product.

6.3 Tank Mixing Procedure

When tank mixing, read and carefully observe label directions, cautionary statements and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the recommended amount of this product.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

6.4 Mixing Chart for Percent Spray Solutions

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

Spray Solution Chart

Desired Volume	Amount of Roundup ProBlend					
	0.5%	1.0%	1.5%	2.0%	3.0%	6.0%

1 Gal	2/3 oz	1 1/3 oz	2 oz	2 2/3 oz	3 7/8 oz	7 2/3 oz
25 Gal	16 oz	1 qt	1 1/2 qt	2 qt	3 qt	6 qt
100 Gal	2 qt	1 gal	1 1/2 gal	2 gal	3 gal	6 gal

2 tablespoons = 1 fluid ounce

For use in backpack, knapsack or pump-up sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

6.5 Colorants or Dyes

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's recommendations.

6.6 Drift Control Additives

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars, drift control booms, and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

7.0 APPLICATION EQUIPMENT, TECHNIQUES AND GENERAL USE RATE RECOMMENDATIONS

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

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

■ **SPRAY DRIFT MANAGEMENT** ■

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 onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

7.1 Aerial Equipment

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

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS. This product plus Banvel™ or 2,4-D tank mixtures may not be applied by air in California.

Apply the recommended rate of this product in 5 to 30 gallons of water per acre. Use the higher recommended spray volumes where weeds, brush and trees are dense or form multiple canopy layers.

For aerial broadcast applications and non-selective weed control, use this product, unless otherwise specified at the rate of 2/3 to 1 1/4 quarts per acre on annual weeds, 1 1/4 to 3 1/8 quarts per acre for perennial weeds and 3 1/8 to 6 1/4 quarts per acre for woody brush and trees. When used according to label directions this product will give control or partial control of weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

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

■ **AERIAL SPRAY DRIFT MANAGEMENT** ■

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications or to public health uses.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

Importance of droplet size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the **Wind, Temperature and Humidity**, and **Temperature Inversion** sections of this label).

Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce larger droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy protection. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.

- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom height to less than $\frac{3}{4}$ of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller droplets, etc.).

Wind

Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

7.2 Ground Broadcast Equipment

For broadcast ground applications and non-selective weed control, unless otherwise specified use this product at the rate of 2/3 to 1 1/4 quarts per acre for annual weeds, 1 1/4 to 3 1/8 quarts per acre for perennial weeds and 3 1/8 to 6 1/4 quarts per acre for woody brush and trees. When used according to label directions this product will give control or partial control of weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

Apply the recommend rate in 10 to 60 gallons of water per acre. As density of herbaceous weeds and woody brush increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. Check for even distribution of spray droplets.

As density of weeds increases, spray volume be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. Check for even distribution of spray droplets.

7.3 Hand-Held Directed Spray Equipment

Use a coarse spray only.

Unless otherwise specified, use the recommended rates listed in the following "APPLICATION RATES" table for various methods of foliar application using high volume, backpack, knapsack and similar types of hand-held equipment. When used according to label directions this product will give control or partial control of weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

APPLICATION RATES

APPLICATION	ROUNDUP® ProBlend	SPRAY VOLUME GAL/A
<u>SPRAY-TO-WET</u>		
Handgun, or Backpack	0.5% to 1.25% by volume	spray-to-wet*
<u>LOW VOLUME DIRECTED SPRAY</u>		
Backpack	3.1% to 6.3% by volume	15 to 25**
Modified High Volume	1.25% to 2.5% by volume	40 to 60**

*For applications made on a spray-to-wet basis, spray coverage should be uniform and complete Do not spray to the point of runoff.

**For low volume directed spray applications, coverage should be uniform with at least 50 to 75 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results. Low volume directed applications with backpacks work best when treating weeds and brush.

7.4 Selective Equipment

This product may be applied through shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label.

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

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

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.

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 splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Best results are obtained when the foliage of weeds and woody brush is contacted by the herbicide solution. Vegetation not contacted by the herbicide solution will not be affected. Poor contact may occur in dense clumps, severe infestations or when the height of the plants varies so that not all of the undesirable plant foliage is contacted. In these instances, repeat treatment may be necessary.

Shielded and hooded applicators

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

Wiper applicators and sponge bars

Equipment must be designed, 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 ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

For Rope or Sponge Wick Applicators--Solutions ranging from 33-75 percent of this product in water may be used.

For Porous-Plastic Applicators and pressure-feed systems--Solutions ranging from 33 to 100 percent of this product in water may be used.

7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically recommended.

7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

CDA equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

8.0 SITE AND USE RECOMMENDATIONS

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

8.1 AQUATIC SITES

This product may be applied to emerged weeds, woody brush and trees in all bodies of fresh and brackish water which may be flowing, nonflowing or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wetlands, wildlife habitat restoration and management areas, and similar sites. This product may also be used to control weeds, woody brush and trees in other terrestrial noncrop sites or in aquatic sites associated with these areas. These use areas include airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fence rows, forestry sites, golf courses, habitat restoration and management areas, industrial sites, lumber yards, manufacturing sites, natural areas, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, utility rights-of-way, utility substations, warehouse areas, other public areas, and similar industrial and noncrop sites.

If aquatic sites are present in the noncrop area or use sites described in this label and are part of the intended treatment area, read and observe the following directions:

This product does not control plants which are completely submerged or have a majority of their foliage under water.

There is no restriction on the use of treated water for irrigation, recreation or domestic purposes.

Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

NOTE: Do not apply this product **directly to water** within 1/2 mile up-stream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made **ONLY** in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does **NOT** apply to intermittent inadvertent overspray of water in terrestrial use sites.

For treatments after drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds.

Floating mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not re-treat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist.

When emerged infestations require treatment of the total surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in fish kill.

Do not spray open bodies of water where herbaceous weeds, woody brush and trees do not exist. The maximum application rate of 3 1/8 quarts per acre must not be exceeded in a single over-water broadcast application except as follows, where any recommended rate may be applied:

- Stream crossings in rights-of-way.
- Where applications will result in less than 20 percent of the total water area being treated.

8.2 Cut Stumps

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface **immediately** after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder	Saltcedar
Eucalyptus	Sweetgum
Madrone	Tan oak
Oak	Willow
Reed, giant	

DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY

RESULTING FROM ROOT GRAFTING IS LIKELY TO OCCUR IN ADJACENT WOODY BRUSH OR TREES.

8.3 Forestry Conifer and Herbaceous Release

This product can be used for conifer release as a broadcast spray at rates of 2/3 to 1 1/4 quarts per acre, unless otherwise stated below for control, partial control or suppression of herbaceous weeds and hardwoods listed in the "WEEDS CONTROLLED" section of this label. Use only where conifers have been established for more than one year unless otherwise stated below. This product may be applied as a directed spray or by using selective equipment in forestry hardwood and conifer sites, including Christmas tree plantations and silvicultural nurseries.

In Maine this product can be applied at rates up to 1 7/8 quarts per acre for control and suppression of difficult hardwood species.

Note: This product may require use with a surfactant. To avoid possible conifer injury use of Entry™II surfactant at 5 to 30 fluid ounces per acre is recommended. Entry II rates should not exceed 20 fluid ounces per acre at elevations above 1500 feet, or 10 fluid ounces per acre in the coastal range or at elevations below 1500 feet in Washington and Oregon. Use of a surfactant is not recommended for release of hemlock species or California redwood. In mixed conifer stands injury to these species may result if a surfactant is used.

APPLICATION MUST BE MADE AFTER FORMATION OF FINAL CONIFER RESTING BUDS IN THE FALL OR PRIOR TO INITIAL BUD SWELLING IN THE SPRING.

Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied. Damage can be accentuated if applications are made when conifers are actively growing, or are under stress from drought, flood water, improper planting, insects, animal damage or diseases.

For release of the following conifer species outside the Southeastern United States:

Douglas fir, Fir, Hemlock, Pines*, California Redwood, Spruce

*Includes all species except loblolly pine, longleaf pine, shortleaf pine or slash pine.

Use 2/3 to 1 1/4 quarts of this product per acre as a broadcast spray.

To release Douglas fir, and pine and spruce species at the end of the first growing season (except in California), this product can be used at the lower recommended rates of 20 to 30 fluid ounces acre. Ensure that the conifers are well hardened off before application.

For release of the following conifer species in the Southeastern United States:

Loblolly pine, Slash pine, Eastern white pine, Virginia pine, Shortleaf pine, Longleaf pine

Apply 30 fluid ounces to 1 1/2 quarts of this product per acre as a broadcast spray during late summer or early fall after the pines have hardened off.

For applications made at the end of the first growing season, use 20 fluid ounces per acre of this product.

TANK MIXTURES

This product may be tank mixed with the following products for conifer or herbaceous release. When tank mixing, read and carefully observe the label claims, cautionary statements and all other information on the labels of all products used. Use according to the most restrictive precautionary statements and label uses for each product in the mixture.

When applied as directed, this product plus listed residual herbicides provides postemergence control of the annual weeds and control or suppression of the perennial weeds listed in this label, and residual control of the weeds listed in the residual herbicide label. Use only on conifer species that are labeled for over-the top sprays for both products.

ATRAZINE
ARSENAL™ APPLICATOR CONCENTRATE
OUST™

Late Summer and Fall after Resting Bud Formation

For release of jack pine, white pine and white spruce, apply 2/3 to 1 ¼ quarts of this product plus 1 to 3 ounces of Oust per acre. For white pine tank mix a maximum of 1 to 1 ½ ounces of Oust per acre.

For conifer release of Douglas fir, use 20 to 30 fluid ounces of this product plus 2 to 6 ounces of Arsenal Applicator Concentrate per acre. For conifer release of balsam fir and red spruce, apply 1 ¼ quarts of this product plus 1 to 2 ½ ounces of Arsenal Applicator Concentrate per acre.

Herbaceous Release

For spring and early summer herbaceous release of Loblolly pine, Virginia and Longleaf pine apply 10 to 15 ounces of this product with 2 to 4 ounces of Oust. Add up to 3.2 ounces per acre of Entry II as the nonionic surfactant.

For early spring release of Douglas fir, prior to bud swell, apply 2/3 quart of this product plus 4 pounds a.i. of atrazine per acre. Allow one full growing season before application. Do not add surfactant to this treatment.

8.4 Forestry Site Preparation and Utility Sites

This product may be used for the control or partial control of woody brush, trees and herbaceous weeds in forestry sites, utility sites and utility rights-of-way. This product is also recommended for use in preparing or establishing wildlife openings within these sites and maintaining logging roads and for side trimming along utility rights-of-way.

This product is recommended for use in site preparation prior to planting any tree species, including eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

This product may be applied as a directed spray or with selective equipment in forestry conifer and hardwood sites, including silvicultural nurseries. Shielded application equipment may be used to avoid contact of the spray solution with desirable plants.

In hardwood plantations, tank mixtures with Oust may be used. In pine plantations, tank mixtures with Garlon™ 3, Garlon 4, Escort, Oust, Chopper™ or Arsenal Applicator Concentrate may be used. Comply with all site restriction, forestry species limitations and precautions on the tank mix product label.

In utilities, this product is recommended for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, such as substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities.

TANK MIXTURES

Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all other information on the labels of all products used. Use according to the most restrictive precautionary statements and label directions for each product in the mixture.

NOTE: For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions. For side trimming treatments in utility rights-of-way, tank mixtures with Arsenal™ 2WSL are not recommended. For side trimming treatments, it is recommended that this product be used alone or in tank mixture with Garlon™ 4.

<u>PRODUCT</u>	<u>BROADCAST RATE</u>	<u>USE SITES</u>
Arsenal Applicators Concentrate	2 to 16 fl oz/a	Forestry Site Preparation
Escort™	½ to 3½ oz/a	Forestry Site preparation
	1 to 2 oz/a	Utility Sites
Chopper™	4 to 32 fl oz/a	Forestry Site preparation
Garlon™ 3A*, Garlon 4	1 to 4 qts/a	Forestry Site preparation, Utility Sites
Oust™	1 to 4 oz/a	Forestry Site preparation
Arsenal 2WSL	4 to 32 fl oz/a	Utility Sites

<u>PRODUCT</u>	<u>SPRAY-TO-WET RATES</u>	<u>USE SITES</u>
Arsenal Applicators Concentrate	1/32% to 1/2% by volume	Forestry Site preparation
Arsenal 2WSL	1/16% to 1/2% by volume	Utility Sites

Escort 1 to 2 oz/a Utility Sites

PRODUCT	LOW VOLUME DIRECTED SPRAY RATES	USE SITES
Arsenal Applicators Concentrate	1/8% to 1/2% by volume	Forestry Site preparation
Arsenal 2 WSL	1/8% to 1/2% by volume	Utility Sites
Escort™	1 to 2 oz/a	Utility Sites

* Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

8.5 General Noncrop Areas and Industrial Sites

Use in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, utility rights of way, utility substations, warehouse areas, other public areas, and similar industrial and noncrop sites.

General weed control, Trim-and-edge and Bare ground

This product may be used in general noncrop areas. It may be applied using equipment, methods of application and recommended rates for control of annual weeds, perennial weeds, woody brush or trees described in this label. This product may be used to trim-and-edge around objects in noncrop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

Tank mixtures with this product may be used to provide residual control or increase the spectrum of weeds controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all other information on the labels of all products used. Use according to the most restrictive precautionary statements and label directions for each product in the mixture.

- | | |
|-----------------|-----------------|
| ARSENAL™ | PLATEAU™ |
| BANVEL | PRINCEP™DF |
| BARRICADE™ 65WG | PRINCEP™ LIQUID |
| DIURON | RONSTAR™ 50WP |
| ENDURANCE™ | SAHARA™ |

- | | |
|------------------|-----------|
| ESCORT™ | SIMAZINE |
| GARLON™ 3A | SURFLAN™ |
| GARLON 4 | TELAR™ |
| KARMEX™ DF | VANQUISH™ |
| KROVAR™ I DF | 2,4-D |
| MANAGE® | |
| OUST | |
| PENDULUM™ 3.3 EC | |
| PENDULUM WDG | |

Banvel and 2,4-D tank mixtures may not be applied by air in California.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 2/3 to 1 1/4 quarts of this product plus 2 to 4 ounces of Oust per acre.

- | | |
|--------------|---------------|
| Bahiagrass | Johnsongrass |
| Bermudagrass | Poorjoe |
| Broomsedge | Quackgrass |
| Dallisgrass | Vaseygrass |
| Dock, curly | Vervain, blue |
| Dogfennel | |
| Fescue, tall | |

Chemical mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 5 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 3 3/4 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

Chemical mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 2 1/2 to 3 1/8 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

Dormant turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup. Apply 5 to 40 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 10 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant bermudagrass and bahiagrass treatments.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 10 fluid ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus OUST in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

Turfgrass renovation, seed, or sod production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding 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 applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

8.6 Habitat Management

Habitat restoration and management

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

Wildlife food plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

8.7 Injection and Frill

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100 percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

<u>Control</u>	<u>Partial Control</u>
Oak	Black gum
Poplar	Dogwood
Sweetgum	Hickory
Sycamore	Maple, red

8.8 Ornamentals and Plant Nurseries, Christmas Trees

Post-directed, Trim-and-edge

This product may be used as a post-directed spray around established woody ornamental species such as arborvitae, azalea, boxwood, crabapple, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Site preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

8.9 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. This product may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

8.10 Railroads

All of the instructions in the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section apply to railroads.

Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way.

This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments:

- | | |
|----------|-------------|
| ARSENAL | KROVAR 1 DF |
| BANVEL | OUST |
| DIURON | SAHARA |
| ESCORT™ | SPIKE™ |
| GARLON3A | TELAR |
| GARLON 4 | VANQUISH |
| HYVAR™ X | 2,4-D |

Brush control

This product may be used for control, partial control or side trimming of woody brush and trees in railroad rights-of-way.

This product may be mixed with the following products for control of woody brush and trees in railroad rights-of-way:

- | | |
|-----------|-----------|
| ARSENAL | GARLON 4 |
| ESCORT | TORDON™ K |
| GARLON 3A | |

For side trimming of brush and trees along railroad rights-of-way, tank mixtures with Arsenal™ 2WSL are not recommended. It is recommended that this product be used alone or in tank mixture with Garlon 4 for side trimming.

Bermudagrass release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 10 to 30 fluid ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

- | | |
|------------|--------------|
| Bahiagrass | Johnsongrass |
|------------|--------------|

Bluestem, silver
Fescue, tall

Trumpet creeper
Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 10 to 30 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass
Blackberry
Bluestem, silver
Broomsedge
Dallisgrass
Dewberry
Dock, curly
Dogfennel

Fescue, tall
Johnsongrass
Poorjoe
Raspberry
Trumpet creeper
Vaseygrass
Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

8.11 Roadsides

All of the instructions in the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section apply to roadsides.

Shoulder treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

Guardrails and other obstacles to mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Tank mixtures

This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments:

BANVEL
DIURON
ENDURANCE
ESCORT
KROVAR I DF
OUST

PRINCEP LIQUID
RONSTAR 50WP
SAHARA
SIMAZINE
SURFLAN
TELAR

OUTRIDER®
PENDULUM 3.3 EC
PENDULUM WDG
PRINCEP DF
VANQUISH
2,4-D

See the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section of this label for general instructions for tank mixing.

Release of Bermudagrass or Bahiagrass

Dormant applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Oust or Outrider for residual control. Tank mixtures of this product with Oust may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4 to 6-leaf stage.

Apply 5 to 40 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

Apply 5 to 40 fluid ounces of this product in a tank mixture with 3/4 to 1 1/3 ounces Outrider herbicide per acre. Read and follow all label directions for Outrider herbicide.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 10 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

- | | |
|------------------|----------------|
| Bahiagrass | Johnsongrass |
| Bluestem, silver | Trumpetcreeper |
| Fescue, tall | Vaseygrass |

This product may be tank-mixed with Oust. If tank-mixed, use no more than 10 to 20 fluid ounces of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label.

Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

- | | |
|------------|--------------|
| Bahiagrass | Fescue, tall |
|------------|--------------|

Bluestem, silver	Johnsongrass
Broomsedge	Poorjoe
Dallisgrass	Trumpet creeper
Dock, curly	Vaseygrass
Dogfennel	Vervain, blue

This product may be tank mixed with Outrider for control or partial control of johnsongrass and other weeds listed in the Outrider label. Use 5 to 20 fluid ounces of this product with 3/4 to 1 1/3 ounces of Outrider. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

Actively growing bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 3 3/4 fluid ounces of this product in 10 to 40 gallons of water per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 2 1/2 fluid ounces of this product per acre, followed by an application of 1 1/4 to 2 1/2 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

A tank mixture of this product plus Oust may be used. Apply 3 3/4 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

This product may be used for control or partial control of johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 2 1/2 to 7 1/2 ounces of this product with 3/4 to 1 1/3 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well established bahiagrass.

9.0 WEEDS CONTROLLED

For general information on application equipment, methods of application and rate recommendations for non-selective control of annual and perennial weeds, woody brush and trees, see sections 7.0 through 7.6 of this label. For additional information on use sites, rate recommendations and tank mixtures, see sections 8.0 through 8.11 of this label.

When applied as recommended under the conditions described, this product **CONTROLS**, or **PARTIALLY CONTROLS** most annual and perennial weeds, woody brush and trees, some of which are listed below:

9.1 Annual Weeds

Annoda, spurred
Barley
Barnyardgrass
Bittercress
Black nightshade

Bluegrass, annual
 Bluegrass, bulbous
 Bassia, fivehook
 Brome, downy
 Brome, Japanese
 Browntop panicum
 Buttercup
 Carolina foxtail
 Carolina geranium
 Castor bean
 Cheatgrass
 Cheeseweed (*Malva parviflora*)
 Chervil
 Chickweed
 Cocklebur
 Copperleaf, hophornbeam
 Corn
 Corn speedwell
 Crabgrass
 Dwarfdandelion
 Eastern mannagrass
 Eclipta
 Fall panicum
 Falsedandelion
 Falseflax, smallseed
 Fiddleneck
 Field pennycress
 Filaree
 Fleabane, annual
 Fleabane, hairy (*Conyza bonariensis*)
 Fleabane, rough
 Florida pusley
 Foxtail
 Goatgrass, jointed
 Goosegrass
 Grain sorghum (milo)
 Groundsel, common
 Hemp sesbania
 Henbit
 Horsetweed/Marestail (*Conyza canadensis*)
 Itchgrass
 Johnsongrass, seedling
 Junglerice
 Knotweed
 Kochia
 Lambsquarters
 Little barley
 London rocket
 Mayweed
 Medusahead
 Morningglory (*Ipomoea spp.*)
 Mustard, blue
 Mustard, tansy

- Mustard, tumble
- Mustard, wild
- Oats
- Pigweed
- Plains/Tickseed coreopsis
- Prickly lettuce
- Puncturevine
- Purslane, common
- Ragweed, common
- Ragweed, giant
- Red rice
- Russian thistle
- Rye
- Ryegrass
- Sandbur, field
- Shattercane
- Shepherd's-purse
- Sicklepod
- Signalgrass, broadleaf
- Smartweed, ladythumb
- Smartweed, Pennsylvania
- Sowthistle, annual
- Spanishneedles
- Speedwell, purslane
- Sprangletop
- Spurge, annual
- Spurge, prostrate
- Spurge, spotted
- Spurry, umbrella
- Starthistle, yellow
- Stinkgrass
- Sunflower
- Teaweed/ Prickly sida
- Texas panicum
- Velvetleaf
- Virginia copperleaf
- Virginia pepperweed
- Wheat
- Wild oats
- Witchgrass
- Woolly cupgrass
- Yellow rocket

9.2 Perennial Weeds

- Alfalfa
- Alligatorweed
- Anise (fennel)
- Bahiagrass
- Beachgrass, European
- Bentgrass
- Bermudagrass

- Bermudagrass, water (knotgrass)
- Bindweed, field
- Bluegrass, Kentucky
- Blueweed, Texas
- Brackenfern
- Bromegrass, smooth
- Bursage, woolly-leaf
- Canarygrass, reed
- Cattail
- Clover; red, white
- Cogongrass
- Dallisgrass
- Dandelion
- Dock, curly
- Dogbane, hemp
- Fescue (except tall)
- Fescue, tall
- German ivy
- Guineagrass
- Horsenettle
- Horseradish
- Iceplant
- Jerusalem artichoke
- Johnsongrass
- Kikuyugrass
- Knapweed
- Lantana
- Lespedeza
- Milkweed, common
- Muhly, wirestem
- Mullein, common
- Napiergrass
- Nightshade, silverleaf
- Nutsedge; purple, yellow
- Orchardgrass
- Pampasgrass
- Paragrass
- Pepperweed, perennial
- Phragmites
- Poison hemlock
- Quackgrass
- Redvine
- Reed, giant
- Ryegrass, perennial
- Smartweed, swamp
- Spurge, leafy
- Sweet potato, wild
- Thistle, artichoke
- Thistle, Canada
- Timothy
- Torpedograss

Trumpetcreeper
Vaseygrass
Velvetgrass
Wheatgrass, western

9.3 Woody Brush and Trees

Alder
Ash
Aspen, quaking
Bearclover (Bearmat)
Beech
Birch
Blackberry
Blackgum
Bracken
Broom; French, Scotch
Buckwheat, California
Cascara
Catsclaw
Ceanothus
Chamise
Cherry; bitter, black, pin
Coyote brush
Deerweed
Dogwood
Elderberry
Elm
Eucalyptus
Gallberry
Gorse
Hasardia
Hawthorn
Hazel
Hickory
Honeysuckle
Hornbeam, American
Kudzu
Locust, black
Madrone resprouts
Manzanita
Maple, red
Maple, sugar
Monkey flower
Oak; black, white
Oak, post
Oak; northern, pin
Oak, Scrub
Oak; southern red
Peppertree, Brazilian (Florida holly)

Persimmon
 Pine
 Poison ivy
 Poison oak
 Poplar, yellow
 Redbud, eastern
 Rose, multiflora
 Russian olive
 Sage, black
 Sage, white
 Sage brush, California
 Salmonberry
 Saltcedar
 Sassafras
 Sourwood
 Sumac; laurel, poison, smooth, sugarbush,winged
 Sweetgum
 Swordfern
 Tallowtree, Chinese
 Tan oak resprouts
 Thimbleberry
 Tobacco, tree
 Toyon
 Trumpetcreeper
 Vine maple
 Virginia creeper
 Waxmyrtle, southern
 Willow
 Yerbasenta

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