

## **CROPPING SYSTEMS - PERENNIAL WEEDS**

### General Information

#### GENERAL INFORMATION

This product, a water-soluble liquid, mixes readily with water and nonionic surfactant to be applied as a foliar spray for the control or destruction of many herbaceous and woody plants.

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 brush species may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow the activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to the complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise directed on the label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the \"WEEDS CONTROLLED\" section of the label.

Unemerged plants arising from unattached underground rhizomes or root stocks of perennials or brush will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds or brush 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 vegetation is heavy or dense.

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

Reduced control may result when applications are made to any weed or brush species that have been mowed, grazed or cut, and have not been allowed to regrow to 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 product off the foliage and repeat treatment may be required.

This product 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.

## AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 20 gallons of water per acre unless otherwise specified on the label. See the \"WEEDS CONTROLLED\" section of the label for specific rates. Unless otherwise specified, do not exceed 1½ pints per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems, Roundup Ready crops, noncrop areas and preharvest applications. Refer to the individual use area sections of the label for recommended volumes and application rates. For specific state information, consult following section and state pesticide regulatory agency.

## STATE INFORMATION AND AERIAL APPLICATION ARKANSAS:

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES.

DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Use the recommended rate of this product in 3 to 15 gallons of water per acre. Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft

safety.

The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases, reducing this distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing air flow on rotary winged aircraft. Avoid the use of nozzles with wide angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

1. Do not apply within 100 feet of any desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet of the desirable vegetation or crops.
3. Winds blowing 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.

CALIFORNIA - Statewide:

Aerial applications of this product are allowed in the following situations:

1. In fallow and reduced tillage systems prior to the emergence or transplanting of labeled crops.
2. In cotton, prior to harvest. Refer to the specified preharvest application instructions.

Do not plant subsequent crops other than those listed in the label booklet for this product for 30 days following application.

When applied as recommended under the conditions described, this product controls annual and perennial weeds listed in the label.

**DO NOT EXCEED A MAXIMUM RATE OF 48 OUNCES PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN FALLOW AND REDUCED TILLAGE SYSTEMS.**

**DO NOT EXCEED A MAXIMUM RATE OF 24 OUNCES PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR IN COTTON, PRIOR TO HARVEST.**

Use the recommended rates of this product in 3 to 15 gallons of water per acre. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

**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 TREATMENT IS NOT INTENDED.**

**TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist. 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 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 and all other information appearing on the additive label.

Ensure uniform application - to avoid streaked, uneven or overlapped application, use appropriate marking devices.

CALIFORNIA - Aquatic and Non-Crop Sites: For full application directions see the \"Aquatic Sites and Noncrop Uses\" section of the label booklet. Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops. Aerial applications may be made with helicopter only.

1. Do not apply within 100 feet of desirable vegetation or crops.
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of the minimum 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

CALIFORNIA - Fresno County: This section applies to aerial applications in Fresno County from February 15 through March 31 only. For aerial application outside of these dates, refer to the \"CALIFORNIA - Statewide\" section.

APPLICABLE AREA: This supplement only applies to the area contained inside the following boundaries within Fresno County, California only. North: Fresno County line, South: Fresno County line, East: State Highway 90, West: Fresno County line.

GENERAL INFORMATION: Always read and follow the label directions and precautionary statements for all products used in the aerial application. Observe the following directions to minimize off-site movement during aerial application of this herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

AERIAL APPLICATOR TRAINING AND EQUIPMENT: Aerial application of this herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing.

Demonstration of performance at Fresno County Agricultural Commissioner approved \"fly-ins\" constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

APPLICATION AT NIGHT: Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

#### HAND-HELD and HIGH-VOLUME EQUIPMENT

##### Use Coarse Sprays Only

For control of weeds listed in the label using knapsack sprayers or high-volume spraying equipment utilizing handguns or other suitable nozzle arrangements - Prepare a  $\frac{3}{4}$  to 2 percent solution of this product in water, add a nonionic surfactant and apply to foliage of vegetation to be controlled. For specific rates of application and instructions for control of various annual and perennial weeds, see the \"WEEDS CONTROLLED\" section in the label.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

This product may be used as a 5 to 8 percent solution for low-volume directed

sprays for spot treatment of trees and brush. It is most effective in areas where there is a low density of undesirable trees or brush. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zig-zag motion. Ensure that at least 50 percent of the leaves are contacted by the spray solution. For flat fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation.

Small, open-branched trees need only be treated from one side. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

Refer the specified label of Spray Solution of the Amount of Herbicide.

For use in knapsack 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 and add the correct amount of surfactant.

## SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on the 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 splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops (such as wiper applications) 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.

### 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 the label.

### WIPER APPLICATIONS

Wiper applications are devices that physically wipe appropriate amounts of this product directly onto the weed.

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 infestation 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.

Do not use wiper equipment when weeds are wet.



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.

Add 10 ounces nonionic surfactant per gallon of this product added to wiper solution.

For Rope or Sponge Wick Applicators - Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this \"WIPER APPLICATORS\" section.

For Porous-Plastic Applicators - Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as recommended under the conditions described as \"WIPER APPLICATORS\", this product CONTROLS or SUPPRESSES the following weeds:

The maximum use rates stated throughout the labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate or sulfosate containing products does not exceed stated maximum use rate.

Except as otherwise specified in a crop section of the label, the combined total of all treatments must not exceed 6 quarts of this product per acre per year. For applications in non-crop sites, tree, vine or shrub crops, the combined total of all treatments must not exceed 8 quarts of this product per acre per year.

Limitations, Restrictions, and Exceptions

#### PERENNIALS WEEDS

- Apply 4½ to 7½ pints of this product per acre as a broadcast spray or as a ¾ to 1½ percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

Perennial Weeds

Apply this product as follows to control or destroy most vigorously growing perennial weeds. Unless otherwise directed, allow at least 7 days after application before disturbing vegetation.

Add 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution to the rates of this product given in this list. See the \"GENERAL INFORMATION\" \"DIRECTIONS FOR USE\" and \"MIXING AND APPLICATION\" sections in the label for specific uses and application instructions.

NOTE: If weeds have been mowed or tilled, do not treat until regrowth has reached the recommended stages. Fall treatments must be applied before a killing frost.

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

#### Weeds Controlled:

- Ryegrass, Italian, Alligatorweed, Cutgrass, giant, Sweet potato, wild, Torpedograss: Partial control.
- Phragmites: Partial control in southeastern states. See specific recommendations below.

#### CROPPING SYSTEMS

When applied as directed for \"CROPPING SYSTEMS\", under the conditions described, this product controls annual and perennial weeds listed on the label, prior to the emergence of direct seeded crops or prior to transplanting of crops listed on the label. In-crop application to Roundup Ready soybeans and cotton can be made according to the directions given in those respective sections below.

See \"GENERAL INFORMATION\" and \"MIXING, ADDITIVES and APPLICATION INSTRUCTIONS\" sections of the label for essential product performance information.

See the following \"CROPPING SYSTEMS\" sections for specific recommended uses. Unless otherwise specified below, add nonionic surfactant at 0.5 to 1 percent of spray volume.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER**

DESIREABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

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

Except as otherwise specified in a crop section of the label, the combined total of all treatments must not exceed 6 quarts per acre of this product per year. For application to tree, vine or shrub crops the combined total of all treatments must not exceed 8 quarts of this product per acre per year.

For any crop not listed below, applications must be made at least 30 days prior to planting.

Do not harvest or feed treated vegetation for 8 weeks following application.

Following spot treatment or selective equipment use, allow 14 days before grazing domestic livestock or harvesting forage grasses and legumes.

- Spot treatments may be applied in these crops.
- Do not treat rice fields or levees when the fields contain flood water.
- Apply only prior to planting. Allow at least 3 days between application and planting.
- Do not feed or graze pineapple forage following application.
- Use is restricted to direct seeded crops only.

When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting.

Residues can be removed by 0.5 inch natural rainfall or by applying water via a sprinkler irrigation system.

Spot Treatment (Only those crops with (one asterisk) 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, or boll opening of cotton.

For forage grasses and forage legumes see \"SPOT TREATMENT\" in the

\\"PASTURES\\" section of \\"CROPPING SYSTEMS\\" in the label.

For dilution and rates of application using boom or hand-held equipment, see \\"MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS\\" and \\"WEEDS CONTROLLED\\" sections of the label.

NOTE: FOR FORAGE GRASSES AND FORAGE LEGUMES, NO MORE THAN ONE-TENTH OF ANY ACRE SHOULD BE TREATED AT ONE TIME. FOR ALL OTHER CROPS, DO NOT TREAT MORE THAN 10 PERCENT 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. Wiper applicators may be used in wheat, rutabagas, forage grasses and forage legumes, including pasture sites and grain sorghum (milo).

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

Pre-Harvest Interval: Allow at least the following time intervals between application and harvest:

Cotton, Soybeans: 7 days

Apples, Citrus, Pear: 1 day

Atemoya, Avocado, Breadfruit, Canistel, Carambola, Cherry, Grapes, Dates, Jaboticaba, Jackfruit, Longan, Lychee, Passion Fruit, Persimmons, Rutabagas, Sapodilla, Sapote, Soursop, Sugar, Apple, Tamarind: 14 days

Stone Fruit: 17 days

Nut Crops, except pistachios: 3 days

Pistachio nuts: 1 days

Wheat: 35 days

Sorghum (milo) 1,2 40 days

- Do not use roller applicators.
- Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field\\_rates 0](#)

•

Restricted Entry Interval

12 hours

Timings

[Postemergence \(Crop\)](#)

[Preemergence \(Crop\)](#)

[Pretransplant](#)