

# **CROPPING SYSTEMS - PERENNIAL WEEDS CONTROL**

## General Information

### GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THE LABEL OR CURRENT SUPPLEMENTAL LABELING ISSUED BY MANUFACTURER.

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. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions. Hand-held sprayers may also be used.

This product moves through the plant from the point of foliage contact 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 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. 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 1) vegetation is heavy or dense, or 2) weeds are growing in an undisturbed (noncultivated) area.

Reduced or unacceptable control may result if weeds or brush are treated under poor growing conditions such as drought stress, disease or insect damage. 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 a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, it is recommended that a residual herbicide program specified on the label be used. Read and carefully observe the precautionary statements and all other information appearing on the labels of all herbicides used.

Mixing this product with herbicides or other materials not recommended in the label may result in reduced performance. However, unless otherwise prohibited on the label or the label of an intended tank mix product, this product may be applied in combination with any herbicide registered for the same site, timing, and method of application. Observe the most restrictive label statements of various tank mix products used. LIABILITY FOR CROP INJURY, HERBICIDE NONPERFORMANCE OR OTHER LOSS OR DAMAGE RESULTING FROM A TANK MIXTURE NOT SPECIFIED ON THE LABEL, OR SUPPLEMENTAL LABELING DISTRIBUTED FOR THIS PRODUCT, IS SPECIFICALLY DISCLAIMED BY MANUFACTURER. BUYER AND ALL USERS ARE RESPONSIBLE FOR ALL LOSS OR DAMAGE IN CONNECTION WITH THE USE OR HANDLING OF MIXTURES OF THIS PRODUCT OR OTHER MATERIALS THAT ARE NOT EXPRESSLY RECOMMENDED IN THE LABEL.

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

**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.

## APPLICATION EQUIPMENT AND TECHNIQUES

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

This product may be applied with the following application equipment:

Aerial - Fixed Wing and Helicopter

Broadcast Spray

Controlled Droplet Applicator (CDA) - Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

Hand-Held and High-Volume Spray Equipment - Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

This product is not registered in California or Arizona for use in mistblowers.

Selective equipment - Recirculating sprayers, shielded sprayers and wiper applicators. See the appropriate part of this section for specific instructions and rates of application.

## 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 for specific rates. Unless otherwise specified, do not exceed 1 1/2 pints per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of the label for recommended volumes and application rates. FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

Avoid direct application to any body of water.

AVOID DRIFT-DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS 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.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure above the manufacturer's recommendation.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the precautionary statements and all other information appearing on the additive label.

This product plus Oust, Banvel, dicamba or 2,4-D tank mixtures may not be applied by air in California.

#### CONTROLLED DROPLET APPLICATION (CDA)

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

For the control of labeled annual weeds with hand-held CDA units, apply a 15 percent solution of this product plus 1.5 ounces non-ionic surfactant per quart spray solution at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 MPH (1-1/2 pints of this product per acre). For the control of labeled perennial weeds, apply a 15 to 30 percent solution of this product plus 1.5 to 3 ounces non-ionic surfactant per quart spray solution at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (1-1/2 to 3 pints of this product per acre).

Controlled droplet application 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 may result.

#### 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 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.

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 plus 0.5 to 1 ounce non-ionic surfactant per gallon spray 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.

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. Prepare the desired volume of spray solution by mixing the amount of this product in water: 2 tablespoons = 1 fluid ounce

#### 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.

Use the equation given in the label to convert from a broadcast rate per acre to a band rate per acre. Use nozzles that provide uniform coverage within the treated area. Keep shields on shielded sprayers adjusted to protect desirable vegetation.

**EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.**

For specific rates of application and instructions for control of various annual and

perennial weeds, see the "WEEDS CONTROLLED".

## WIPER APPLICATORS

Wiper applicators 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 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.

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.

## ADDITIONAL DIRECTIONS FOR USE

FOR USE AND DISTRIBUTION ONLY IN MISSISSIPPI

TO RESTRICT USE AS A PRE-PLANT BURN DOWN TREATMENT ON THOSE  
AGRICULTURAL CROPS OTHER THAN FORESTLAND

## Aerial Application Restrictions:

Aerial application is prohibited in Zone I, south of Highway 8 in the counties listed, from March 15 through April 30, except by permit from an authorized employee of the Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry (Ph. 1-888-257-1285) Aerial application is prohibited in Zone II, north of Highway 8 in the counties listed below, from March 25 through April 30, except by permit from an authorized employee of the Mississippi Department of Agriculture and Commerce, Bureau of Plant Industry (Ph. 1-888-257-1285)

Zone I: South of Highway 8 in the counties of Bolivar, Sunflower, Leflore and Grenada plus the entire counties of Carroll, Holmes, Humphreys, Washington, Sharkey, Issaquena, Yazoo and Warren.

Zone II: North of Highway 8 in the counties of Bolivar, Sunflower, Leflore, and Grenada plus the entire counties of Tallahatchie, Tate, Quitman, Coahoma, Tunica, Panola, and Desoto.

## Limitations, Restrictions, and Exceptions

### CROPPING SYSTEMS

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, 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 DESIRABLE 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, repeat treatments must be made before the crop emerges in accordance with the instructions of the label.



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

For any crop not listed, 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.

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.

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

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.

NOTE:

- Barley, Buckwheat, Millet (Pearl, Proso), Oats, Rye, Triticale, Wheat (All), Wild Rice, Alfalfa, Forage Grasses, Forage Legumes, Corn (All), Cotton, Sorghum (Milo), Soybeans, Sugarcane, Asparagus: Spot treatments may be applied in these crops.

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 on cotton.

- Rice: Do not treat rice fields or levees when the fields contain flood water.
- Cantaloupe, Casaba melon, Pepper (All), Cucumber, Eggplant, Garlic, Gourds, Ground cherry, Honeydew Melon, Honeyball Melon, Mangomelon, melons (All), Muskmelon, Persian Melon, Pumpkin, Squash (Summer, Winter), Tomatillo, Tomato, Watercress, Watermelon: Apply only prior to planting. Allow at least 3 days between application and planting.
- Pineapple: Do not feed or graze treated pineapple forage following application.
- Tomato: 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.

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, Sorsop, Sugar Apple, Tamarind: 14 days
- Stone Fruit: 17 days
- Nut Crops, except pistachios: 3 days
- Pistachio nuts: 21 days
- Wheat: 35 days (Do not use roller applicators.)
- Sorghum (milo): 40 days (Do not feed or graze treated milo fodder. Do not ensile treated vegetation.)

## 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.

See individual control recommendations for specific weeds. For other perennials listed, apply 4-1/2 to 7-1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1-1/2 percent solution with hand-held equipment.

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.

Alligatorweed; Cutgrass, giant; Sweet potato, wild; Torpedograss: Partial control.

Phragmites: Partial control in southeastern states.

### Method

[Broadcast](#)

[Hand-Held Spray](#)

[Broadcast](#)

[Hand-Held Spray](#)

[Broadcast](#)

[Hand-Held Spray](#)

[Broadcast](#)

[Hand-Held Spray](#)

### Rates

[field\\_rates 0](#)

[field\\_rates 1](#)

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Restricted Entry Interval

12 hours

Timings

Preemergence (Crop)

Preplant

Pretransplant

Apply to actively growing perennial weeds and most have reached early head or early bud stage of growth.