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241-396

8-24-98

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:

241-396

Date of Issuance:

AUG 24 1998

Term of Issuance:

Conditional

Name of Pesticide Product:

STRUCTURE residual herbicide

NOTICE OF PESTICIDE:
 Registration
 Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

American Cyanamid Company
P.O. Box 400
Princeton, NJ 08543-0400

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration/ reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

2. Make the following label changes listed below before you release the product for shipment:

a. Add the phrase, "EPA Reg. No. 241-396".

b. When labels are printed assure that the Signal Word DANGER - PELIGRO and Keep Out Of The Reach Of Children meet the type size required by 40 CFR 156.10(h)(1)(iv).

Signature of Approving Official:

Date:

AUG 24 1998

July 25

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c. Either retain the spray drift statements that appear on the proposed labeling for this product or update the Spray Drift Section so it complies with language recommended by the Industry - EPA Spray Drift Task Force.

For your information, the following is the initial paragraph for the spray drift management statements that appear on a recently registered pesticide product:

SPRAY DRIFT

Avoid spray drift. Do not apply when weather conditions may cause drift. Do not allow this product to drift on to non-target areas. Drift may result in illegal residues or injury to adjacent crops and vegetation. To avoid spray drift, DO NOT apply aerially when wind speed is greater than 10 mph or during periods of temperature inversions. Use of larger droplet size will also reduce spray drift.

d. Since the section for use of an either an Adjuvant or a Surfactant is ahead of all of the Tank Mixtures directions, the label still implies that surfactants can be used with Roundup Ultra or Touchdown in contradiction to their label restrictions. Either modify the format or add a statement to the these tank mix directions specifying not to apply with surfactants or adjuvants.

3. Submit one (1) copy of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

James A. Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)

Enclosure

30725

STRUCTURE™ residual herbicide
FOR USE IN ROUNDUP READY® SOYBEANS

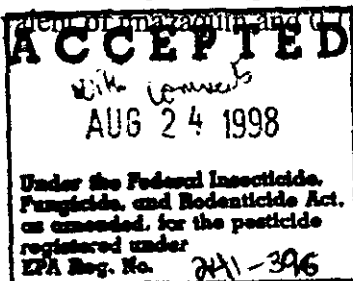
ACTIVE INGREDIENTS:

Imazaquin:	2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-quinolinecarboxylic acid.....	1.2%
Imazethapyr:	(±)-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-ethyl-3-pyridinecarboxylic acid.....	1.4%
Pendimethalin:	(N-1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine.....	30.0%
INERT INGREDIENTS *	<u>67.4%</u>
TOTAL	100.00%

STRUCTURE contains 2.92 pounds of active ingredient per gallon (2.68 pounds ai pendimethalin, 0.11 pounds acid equivalent of imazaquin and 0.18 pounds acid equivalent of imazethapyr).

*Contains petroleum distillates.

U.S. Patent No. 4,798,619
EPA Reg. No. 241-XXX



EPA Est. No.

KEEP OUT OF REACH OF CHILDREN
DANGER!; PELIGRO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail.)

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 973-683-3100.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF SWALLOWED: Call a physician or Poison Control Center. Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

See Additional Precautionary Statements Inside.

AMERICAN CYANAMID COMPANY
NORTH AMERICA AGRICULTURAL PRODUCTS DIVISION
CROP PROTECTION PRODUCTS DEPARTMENT
PARSIPPANY, NEW JERSEY 07054 ©1998

Net Contents:

™ STRUCTURE is a trademark of American Cyanamid Company
® Roundup Ready is a registered trademark of Monsanto Agricultural Products Co.

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**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER! / PELIGRO!**

Corrosive: Causes irreversible eye damage and skin irritation. Harmful if swallowed or absorbed through skin. DO NOT get in eyes, on skin or on clothing.

Personal Protective Equipment (PPE):

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

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils or viton ≥ 14 mils.
- Chemical-resistant footwear plus socks.
- Protective eyewear
- Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when cleaning equipment, mixing, or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls:

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

<p>User Safety Recommendations:</p> <p>Users should:</p> <ul style="list-style-type: none"> • 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. • Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
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ENVIRONMENTAL HAZARDS

This product is toxic to fish. DO NOT apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. DO NOT contaminate water when disposing of equipment washwaters.

This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

DIRECTIONS FOR USE

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

This labeling must be in the possession of the user at the time of pesticide application.

Observe all cautions and limitations in this leaflet and on the labels of products used in combination with STRUCTURE. Always use in accordance with the more restrictive label restrictions and precautions. Do not use STRUCTURE other than in accordance with the instructions set forth on this label. The use of STRUCTURE not consistent with this label may result in injury to crops. Keep container closed to avoid spills and contamination.

DO NOT apply this product through any type of irrigation system.

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Exception: if the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, neoprene rubber \geq 14 mils or viton \geq 14 mils.
- Chemical-resistant footwear plus socks.
- Protective eyewear
- Chemical-resistant headgear for overhead exposure.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

STORAGE: DO NOT STORE BELOW 40°F. Store in original containers and keep closed. Store in a cool, dry place.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL FOR 2.5 GALLONS: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult federal, state or local authorities for approved alternative disposal procedures.

CONTAINER DISPOSAL FOR MINI-BULK AND BULK: Return empty container for reuse.

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DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on research and field use. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use of, or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company shall not be responsible for losses or damages resulting from use of this product in any manner not set forth on this label. User assumes all risks associated with the use of this product in any manner not specifically set forth on this label.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above. **CYANAMID DOES NOT MAKE OR AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

BUYER'S EXCLUSIVE REMEDY AND AMERICAN CYANAMID'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF STRUCTURE. In no case shall Cyanamid or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product.

USES WITH OTHER PRODUCTS (TANK-MIXES)

If this product is used in combination with any other product except as specifically recommended in writing by American Cyanamid Company then American Cyanamid Company shall have no liability for any loss, damage or injury arising out of its use in any such combination not so specifically recommended. If used in combination recommended by American Cyanamid Company, the liability of American Cyanamid Company shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the American Cyanamid Company product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the American Cyanamid Company product.

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GENERAL INFORMATION

STRUCTURE residual herbicide applied as an early preplant, preplant incorporated, or preemergence treatment, provides early season and residual control of broadleaf and grass weeds in Roundup Ready soybeans. STRUCTURE reduces competitive effects from weeds during the first weeks after soybean planting. If weeds emerge later, Roundup Ultra should be applied postemergence in a sequential program to maintain weed control.

After STRUCTURE is applied, some susceptible weeds may emerge. However, growth then stops and the weeds either die or are not competitive with the crop.

A timely cultivation may aid in the control of certain weeds or improve general weed control when adequate moisture is not received after application. Cultivation should be shallow.

STRUCTURE reaches the growing points of susceptible weeds either by direct contact in the soil, or by root uptake and rapid translocation to the growing points. Therefore, adequate soil moisture is important for optimum activity of STRUCTURE. The amount of rainfall or irrigation required following application depends on existing soil moisture, soil texture and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is normally adequate. If adequate moisture is not received within 7 days after treatment, then a cultivation or postemergence herbicide application may be needed to improve weed control. When adequate moisture is received after dry conditions, STRUCTURE will provide residual control of susceptible germinating weeds; activity on established weeds will depend on the weed species and the location of its root system in the soil.

Occasionally, internode shortening of soybean plants may be observed with STRUCTURE applications. This has no effect on soybean yields.

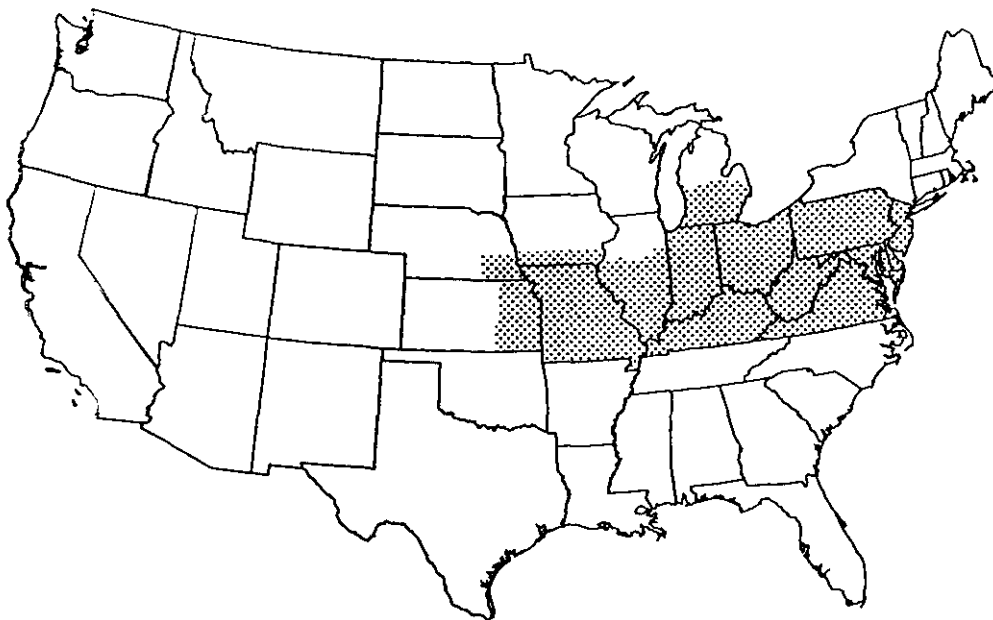
Naturally occurring biotypes* of some of the weeds listed on this label may not be effectively controlled by this and/or other products with either the ALS/AHAS enzyme inhibiting mode of action or the mitotic inhibiting mode of action. Other herbicides with the ALS/AHAS enzyme inhibiting mode of action include the sulfonylureas (e.g., Accent®, Basis®, Classic®, Concert®, Exceed®, Permit®, Pinnacle®, etc.), the sulfonamides (e.g., Broadstrike™, etc.) and the pyrimidyl benzoates (e.g., Staple®, etc.). Herbicides with the mitotic inhibiting mode of action include the other dinitroaniline herbicides such as PROWL®3.3 EC herbicide, TREFLAN™, TRI-4® HF herbicide and Sonalan™. If naturally occurring biotypes are present in a field which are resistant to one of the herbicides in this premix and are not controlled by the other mode of action herbicide in this premix, STRUCTURE should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

* A weed biotype is a naturally occurring plant within a given species that has a slightly different, but distinct, genetic makeup from other plants.

See your Cyanamid representative for additional information.

USE AREA

STRUCTURE can be applied only in the states or parts of states shaded in the following map, and listed below.



KANSAS: East of U.S. Highway 77

NEBRASKA: Southeastern part of the state in the counties of Cass, Fillmore, Gage, Jefferson, Johnson, Lancaster, Nemaha, Otoe, Pawnee, Richardson, Saline, Seward, Thayer, and York

IOWA: In the counties of Mills, Fremont, Montgomery, Page, Adams, Taylor, Union, Ringgold, Clarke, Decatur, Lucas, Wayne, Monroe, Appanoose, Wapello, Davis, Jefferson, Van Buren, Henry, Lee, and Des Moines

ILLINOIS: South of State Highway 116 west of Peoria, south of U.S. Highway 24 east of Peoria

MICHIGAN: South of State Highway 20 west of Midland, south of State Highway 46 east of Midland

MISSOURI, INDIANA, OHIO, KENTUCKY, VIRGINIA, WEST VIRGINIA, PENNSYLVANIA, MARYLAND, DELAWARE, AND NEW JERSEY.

WEEDS CONTROLLED

When used as directed in a sequential program, a soil application of **STRUCTURE**, followed by a postemergence application of 1 pint per acre of Roundup Ultra to 1-3 inch weeds, will control or reduce competition from the weeds listed below.

BROADLEAF WEEDS

<u>WEEDS CONTROLLED</u>	<u>LEVEL OF CONTROL</u>
Anoda, spurred	Control
Buffalobur	Control
Burcucumber	Control
Carpetweed	Control
Cocklebur, common	Control
Copperleaf	
hophornbeam	Control
Virginia	Control
Eclipta	Control
Galinsoga	Control
Jimsonweed	Control'
Knotweed	Control
Kochia	Control
Lambsquarters, common	Control
Mallow, Venice	Control
Marestail	Control
Marshelder	Control
Morningglory	
entireleaf	Suppression
ivyleaf	Suppression
pitted	Suppression
smallflower	Control
tall	Suppression
Mustard species	Control
Nightshade	
black	Control
Eastern black	Control
hairy	Control
Pigweed	
Palmer	Control
redroot	Control
smooth	Control
spiny	Control
Poinsettia, wild	Control
Puncturevine	Control
Purslane, common	Control
Pusley, Florida	Control
Ragweed,	
common	Control
giant	Control

BROADLEAF WEEDS CONTINUED

WEEDS CONTROLLED	LEVEL OF CONTROL
Sage, barnyard	Suppression
Sida, prickly (teaweed)	Control
Smartweed	
ladysthumb	Control
Pennsylvania	Control
Spurge	
prostrate	Control
spotted	Control
Sunflower, common	Control
Texasweed	Suppression
Velvetleaf	Control
Waterhemp,	
common	Control
tall	Control

GRASS WEEDS

WEEDS CONTROLLED	LEVEL OF CONTROL
Barnyardgrass	Control
Corn, volunteer	Control
Crabgrass	
large	Control
smooth	Control
Crowfootgrass	Control
Cupgrass, woolly	Control ¹
Foxtail	
giant	Control
green	Control
yellow	Control
Goosegrass	Control
Itchgrass	Control
Johnsongrass	
rhizome	Suppression
seedling	Control
Millet, wild-proso	Control
Panicum	
browntop	Control
fall	Control
Texas	Control
Sandbur, field	Control
Shattercane	Control
Signalgrass, broadleaf	Control
Sorghum-almum	Control
Witchgrass	Control

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SEDGES

<u>WEEDS CONTROLLED</u>	<u>LEVEL OF CONTROL</u>
Nutsedge, yellow	Suppression

To obtain consistent control or suppression of these weeds under a wide range of environmental conditions, a preplant incorporated application of STRUCTURE is required.

DIRECTIONS FOR CONVENTIONAL, MINIMUM, AND NO-TILL APPLICATIONS

USE RATE

STRUCTURE: 3 pints/acre

Apply STRUCTURE at a broadcast rate of 3 pints per acre either preplant, preplant incorporated, or preemergence (including minimum and no-till systems). At this broadcast rate, one gallon of STRUCTURE will treat 2.67 acres of soybeans.

MIXING INSTRUCTIONS

When water is used as the carrier, first fill the spray tank one-fourth to one-half full with clean water. While agitating, add the required amount of STRUCTURE. Fill the remainder of the tank with clean water. An antifoaming agent may be added to the tank if needed. Maintain agitation while spraying to ensure a uniform spray mixture.

When tank-mixing STRUCTURE with recommended herbicides, add the other herbicides and adjuvants in the following order while agitating. Thoroughly mix each ingredient before adding the next ingredient.

1. Fill spray tank 1/4 to 1/2 full with clean water.
2. Add soluble packet products and thoroughly mix.
3. Add WP (wettable powder), DG (dispersible granule), DF (dry flowable) or LF (liquid flowable) formulations.
4. Add aqueous solution products.
5. Add STRUCTURE.
6. Add other EC (emulsifiable concentrate) products.
7. Add surfactant to the spray tank.
8. Add liquid fertilizer.
9. While agitating, fill the remainder of the tank with water.

When paraquat is included in a tank-mixture, add 8 ounces of non-ionic surfactant per 100 gallons of spray mixture as the last ingredient in the tank.

In areas with very hard water, a compatibility agent may be added to the tank to ensure uniform dispersion of the spray mixture.

To avoid injury to sensitive crops, spray equipment used for STRUCTURE applications must be drained and thoroughly cleaned with water before being used to apply other products.

SPRAYING INSTRUCTIONS

DO NOT apply if wind conditions, temperature inversion conditions, or other conditions may cause drift onto adjacent areas or sensitive crops. Sensitive crops include, but are not limited to, leafy vegetables, sugarbeets, and cotton.

Avoid overlaps when spraying.

GROUND APPLICATIONS:

Uniformly apply with properly calibrated ground equipment in 10 to 40 gallons of water, or 20 or more gallons of liquid fertilizer per acre. Use higher gallonage for fields with dense vegetation or heavy crop residues. A spray pressure of 20 to 40 psi is recommended.

AERIAL APPLICATIONS:

Uniformly apply with properly calibrated aerial equipment in 5 or more gallons of water per acre.

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.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

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.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information presented below.

INFORMATION ON 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 WIND, TEMPERATURE AND HUMIDITY, and TEMPERATURE INVERSIONS).

CONTROLLING DROPLET SIZE

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. 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 parallel to the airstream produces larger droplets than other orientations and is recommended practice. 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 the largest droplets and the lowest drift.

BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 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 exposure of 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 2-10 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, or non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Applicator is responsible for any loss or damage which results from spraying STRUCTURE in a manner other than recommended in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regard to spraying.

APPLICATION IN FERTILIZERS

APPLICATIONS IN LIQUID FERTILIZERS

STRUCTURE can be applied in liquid fertilizers. Follow all STRUCTURE label recommendations regarding incorporation, timing of application, special instructions and precautions. For other STRUCTURE tank mix partners, refer to the individual product labels for specific recommendations for using these products with liquid fertilizers. Apply treatments in 20 or more gallons of liquid fertilizer per acre with ground equipment. Maintain continuous agitation in the spray tank to prevent separation. To prevent clogging, use only flood nozzles with no nozzle screens.

All individual state regulations relating to fluid fertilizer mixing, registration, labeling and application are the responsibility of the individual and/or company selling the STRUCTURE/liquid fertilizer mixture.

LIQUID FERTILIZER COMPATIBILITY DETERMINATIONS

If a liquid fertilizer and herbicide(s) mixture separates in the spray tank, clogged equipment and uneven application can result, which can cause poor weed control and crop injury. Always predetermine the compatibility of STRUCTURE in the specific liquid fertilizer to be used according to the following directions:

1. Add 1 pint of fertilizer to each of 2 one-quart jars.
2. Add 1/2 teaspoon of adjuvant to one jar.
3. Add to each jar the correct amount of STRUCTURE as specified in the table below.
4. Close both jars and shake thoroughly for 10 seconds. Let them stand for 30 minutes and then observe the results. Look for signs of separation, an oily layer or globules, sludge, flakes or other precipitates.

5. Determine compatibility:

- (a) If the mixture without adjuvant does not separate, use this mixture in your spray tank.
- (b) If the mixture with adjuvant does not separate, but the one without adjuvant separates, use the adjuvant mixture in your spray tank. Add the adjuvant to the liquid fertilizer as directed on the manufacturer's label.
- (c) If either mixture separates, but mixes readily with shaking, the mixture can be used providing good agitation is maintained in the spray tank.
- (d) If separation of the mixture occurs, and agitation and, or the addition of adjuvant/compatibility agent does not correct the problem, DO NOT use the herbicide(s) in that specific liquid fertilizer.

Teaspoons of STRUCTURE to be Added to 1 Pint of Liquid Fertilizer Solution

Gallons of Liquid Fertilizer to be Applied per Acre	STRUCTURE (tsp)
20	2
30	1 1/2
40	1

APPLICATIONS WITH DRY BULK FERTILIZERS

STRUCTURE may be impregnated on dry bulk fertilizers. When applied as directed, STRUCTURE/dry bulk fertilizer mixtures provide weed control equal to that provided by the same rates of STRUCTURE applied in water or liquid fertilizer.

Apply STRUCTURE/dry bulk fertilizer mixtures only with ground equipment.

All individual state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the STRUCTURE/dry bulk fertilizer mixture.

A minimum of 200 pounds and a maximum of 450 pounds of dry bulk fertilizer impregnated with the recommended amount of STRUCTURE must be applied per acre.

DO NOT impregnate STRUCTURE onto coated ammonium nitrate or limestone because these materials will not absorb the herbicide. Dry fertilizer blends containing mixtures of ammonium nitrate or limestone may be impregnated with STRUCTURE. A minimum of 200 pounds of impregnated dry bulk fertilizer, excluding the weight of ammonium nitrate or limestone, must be applied per acre.

Apply STRUCTURE at the rate of 3 pints per acre. Use the following table to determine the amount of STRUCTURE to be impregnated on a ton of dry bulk fertilizer based on the rate of fertilizer which will be applied per acre.

RATE CHART FOR IMPREGNATION OF DRY BULK FERTILIZER WITH STRUCTURE

(Pints of STRUCTURE per Ton of Fertilizer)

STRUCTURE Rate Per Acre	Fertilizer Rate lbs/acre	Pints of STRUCTURE Per Ton of Fertilizer
3 Pints	200	30
	250	24
	300	20
	350	17
	400	15
	450	13 1/3

For rates not listed in the table, calculate the pints of STRUCTURE to be impregnated on a ton of dry bulk fertilizer using the following formula:

$$\frac{2000}{\text{Pounds of dry fertilizer per acre}} \times \begin{matrix} 3 \text{ pints of} \\ \text{STRUCTURE per acre} \\ \text{(recommended rate)} \end{matrix} = \begin{matrix} \text{Pints of} \\ \text{STRUCTURE per ton} \\ \text{of fertilizer} \end{matrix}$$

To impregnate STRUCTURE on bulk fertilizer, use a closed rotary-drum mixer or other commonly used dry bulk fertilizer blender equipped with suitable spray equipment. Spray nozzles must be placed to provide uniform coverage of STRUCTURE onto the fertilizer during mixing.

Apply the STRUCTURE/dry bulk fertilizer mixture with an accurately calibrated dry fertilizer spreader. The STRUCTURE/dry bulk fertilizer mixture must be spread uniformly on the soil surface. Uneven spreading can cause poor weed control and crop injury.

APPLICATION INSTRUCTIONS

STRUCTURE may be used in Roundup Ready soybeans grown in conventional, minimum-, or no-till systems. STRUCTURE may be applied early preplant or preplant incorporated up to 15 days before planting. Preemergence applications may be made during or after planting but before the crop cracks the soil surface. DO NOT apply postemergence (or at cracking) to soybeans.

Adequate soil moisture is required for optimum activity of STRUCTURE. If sufficient rainfall or irrigation to activate STRUCTURE is not received within 7 days after application, a thorough shallow tillage or cultivation, or a postemergence herbicide treatment, (as appropriate to the tillage system), is recommended to enhance weed control.

PREPLANT APPLICATIONS INCLUDING BURNDOWN

Surface apply STRUCTURE up to 15 days before planting. For enhanced burndown of existing vegetation in no-till or reduced tillage systems, STRUCTURE may be applied in tank mix with, or following, either 2,4-D, Roundup Ultra, Touchdown, or Gramoxone Extra. Refer to the respective product labels for rates, methods of application, proper timing, weeds controlled, restrictions, and precautions.

PREPLANT INCORPORATED APPLICATIONS

Apply STRUCTURE before planting and incorporate uniformly into the top 1 to 2 inches of soil. STRUCTURE may be applied immediately before planting or up to 15 days prior to planting. Incorporate within 7 days after application. If soybeans are planted on beds, apply and incorporate after bed formation using PTO-driven equipment or rolling cultivator.

PREEMERGENCE APPLICATIONS

SURFACE APPLICATIONS MADE BEFORE PLANTING

STRUCTURE may be surface applied up to 15 days before planting, both north and south of Interstate I-80.

SURFACE APPLICATIONS MADE AFTER PLANTING

STRUCTURE may be surface applied up to 2 days after soybean planting (before crop emergence) south of Interstate I-80. DO NOT APPLY STRUCTURE AFTER SOYBEAN PLANTING North of Interstate I-80, except in the states of Indiana, Ohio, and Michigan.

Note: Plant soybeans at least one inch deep and adjust planters to ensure adequate seed coverage.

HERBICIDE COMBINATIONS

For conservation tillage systems, STRUCTURE may be tank mixed with 2,4-D, Roundup Ultra, Touchdown, or Gramoxone Extra to kill existing vegetation.

STRUCTURE must be used only in accordance with the directions on this label. Always follow the more restrictive label limitations and precautions when using tank mixes.

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HERBICIDE COMBINATIONS FOR BURNDOWN IN CONSERVATION TILLAGE SYSTEMS

For burndown applications in conservation tillage systems:

- add an adjuvant or a surfactant to the spray mixture, AND
- a nitrogen-based fertilizer at 1-2 qt/acre, or ammonium sulfate (spray grade) at 2.5 lbs/acre
- ensure thorough coverage using a minimum of 10 gallons of water per acre, with a higher gallonage for fields with dense vegetation or heavy crop residues
- use appropriate nozzles to ensure thorough coverage
- use ground equipment only.

Adjuvant or Surfactant:

Use either a methylated seed oil concentrate (e.g., SUN-IT II™) or a crop oil concentrate at 1% v/v (1 gallon per 100 gallons of spray mixture), or a nonionic surfactant (containing at least 80% active ingredient) at 0.25% v/v (1 quart per 100 gallons of spray mixture).

Tank Mixtures with 2,4-D

2,4-D may be used with STRUCTURE alone or in combination with other STRUCTURE tank mixes prior to planting for control of some annual broadleaf weeds. Use the following rates of 2,4-D in tank mixtures with STRUCTURE:

2,4-D Formulation	Rate (lb a.i./A)	Minimum Days Before Planting
Ester	0.5	7
Amine	0.5	15

Refer to the 2,4-D label for weeds controlled.

Observe all precautions and limitations on the 2,4-D label.

Tank Mixtures with Roundup Ultra or Touchdown



When applied early preplant or preemergence, Roundup Ultra or Touchdown may be mixed with STRUCTURE for control of weeds common to no-till production. Roundup Ultra or Touchdown will aid in the burndown of existing weeds, while STRUCTURE controls non-emerged weeds and some emerged weeds.

The rate of Roundup Ultra or Touchdown, for tank mixes with STRUCTURE is the same as the rate of these products when used alone.

Observe all precautions and limitations on the Roundup Ultra or Touchdown product labels.

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Tank Mixtures with Gramoxone Extra

Gramoxone Extra, at 1.5 to 2.5 pints per acre, may be used with STRUCTURE alone or in combination with other tank mixes for the control of certain emerged grasses and broadleaf weeds. Use the 2.5 pint rate if weeds are 4 to 6 inches tall. Weeds over 6 inches may not be controlled with this treatment. Apply up to 14 days before, during or immediately after planting.

When Gramoxone Extra is included in a tank mixture, add a nonionic spreader surfactant at a rate of 8 fl. oz. per 100 gallons of spray mixture as the last ingredient in the tank.

Gramoxone Extra will control most annual emerged weeds and suppress many emerged perennials. Refer to the Gramoxone Extra label for specific use recommendations and weeds controlled.

Observe all precautions and limitations on the Gramoxone Extra label.

STRUCTURE FOLLOWED BY ROUNDUP ULTRA IN A SEQUENTIAL PROGRAM

STRUCTURE may be applied early preplant, preplant incorporated, or preemergence to Roundup Ready soybeans for early season weed control and residual activity on broadleaf weeds and grass weeds. If weeds emerge later, Roundup Ultra may be applied postemergence for weed control. Apply Roundup Ultra postemergence at 1 pint per acre when weeds are 1-3 inches, and prior to canopy closure. The addition of ammonium sulfate (spray grade) at 2.5 lbs per acre, is recommended. For sequential treatments, a sufficient time period should elapse between treatments to allow an appropriate assessment of weed control needs.

Note: DO NOT apply Roundup Ultra postemergence to soybeans that are not glyphosate-resistant. Avoid contact with all non glyphosate-resistant plants on which treatment is not intended, since severe injury or destruction will result from drift, splash, or other contact with Roundup Ultra.

Observe all precautions and limitations on the Roundup Ultra product label.

ROTATIONAL CROP GUIDELINES

The following rotational crops may be planted after applying STRUCTURE in soybeans at the recommended rate:

1. Anytime: Soybeans
2. Four months: Wheat
3. Nine and one-half months: IMI-CORN[®] seed hybrids¹; Field corn (non IMI-CORN seed hybrids)
4. Eleven months: Barley; Edible beans
5. Eighteen months: Alfalfa; Grain sorghum; Oats; Pop corn; Sweet corn; Peas
6. Twenty six months: Potatoes
7. Forty months: Sugar beets²; Red table beets²; all crops not listed elsewhere in the ROTATIONAL CROP GUIDELINES².

¹ Contact your chemical dealer, seed supplier, or American Cyanamid to obtain information regarding the availability of imidazolinone tolerant (IMI-CORN) field corn hybrids which are adapted to your area.

² Following 40 months after a STRUCTURE application, and before planting sugar beets, red table beets, or any crop not listed elsewhere in the ROTATIONAL CROP GUIDELINES, a successful field bioassay must be completed. The field bioassay consists of a test strip of sugar beets (or the other intended rotational crop) planted across the previously treated field and grown to maturity. The test strip should include low areas and knolls, and include variations in soil such as type and pH. If no crop injury is evident in the test strip, sugar beets (or the other intended rotational crop) may be planted the following year.

If the field is limed to adjust soil pH prior to planting sugar beets (or other rotational crops not listed in the ROTATIONAL CROP GUIDELINES), apply the lime at least 12 months prior to planting.

PRECAUTIONS

DO NOT use STRUCTURE other than in accordance with the instructions set forth on this label.

DO NOT apply STRUCTURE postemergence to soybeans as crop injury may occur.

DO NOT use on crops other than soybeans. Crops other than soybeans, such as cotton, corn, grain sorghum, rice and vegetables, may be injured by spray drift or other indirect contact with STRUCTURE.

To avoid injury to sensitive crops, spray equipment used for STRUCTURE applications must be drained and thoroughly cleaned with water before being used to apply other products to these crops.

Use of STRUCTURE in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors make it impossible to eliminate all risks associated with use of this product and, therefore,

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rotational crop injury is always possible. For specific recommendations see the ROTATIONAL CROP GUIDELINES.

Only rotational crops harvested at maturity may be used for feed or food.

Replanting: If replanting is necessary in a field previously treated with STRUCTURE, the field may be replanted to soybeans. Rework the soil no deeper than the treated zone. DO NOT APPLY A SECOND TREATMENT OF STRUCTURE.

In the event of a crop loss due to weather, soybeans can be replanted. DO NOT work the soil deeper than 2 inches.

If soybeans are furrow irrigated, till the soil prior to planting winter wheat or barley. The beds should be broken up and the soil mixed with tillage equipment set to cut 4-6 inches deep.

There should be an interval of at least 90 days between an application of STRUCTURE and soybean harvest.

DO NOT graze or feed treated soybean forage, hay or straw to livestock.

Application of products containing chlorimuron ethyl (e.g., Classic, Canopy®, Concert, Gemini®, Lorox® Plus, Preview®, Pinnacle, Synchrony®, etc.), imazaquin (e.g., DETAIL®, SCEPTER®, SCEPTER® 70 DG, SCEPTER® O.T.®, SQUADRON®, STEEL®, TRI-SCEPT®), imazethapyr (e.g., PURSUIT®, PURSUIT® PLUS EC, etc.), or flumetsulam (e.g., Broadstrike) the same year as labeled rates of STRUCTURE may increase the risk of injury to sensitive rotational crops. Consult labels for recommended uses of these products in combinations.

For additional information regarding the use of STRUCTURE, call telephone no. 800-942-0500.

TRI-4 HF, PROWL 3.3 EC, IMI-CORN, DETAIL, SCEPTER, SCEPTER 70 DG, SCEPTER O.T., SQUADRON, TRI-SCEPT, PURSUIT, PURSUIT PLUS EC, and STRUCTURE are trademarks or registered trademarks of American Cyanamid Company.

SUN-IT II is a trademark of Agsco, Inc.

Broadstrike, Sonalan, and Treflan are trademarks of Dow AgroSciences.

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Permit, Roundup, and Roundup Ready are registered trademarks of Monsanto Agricultural Products Co.

Exceed is a registered trademark of Novartis, Inc.

Gramoxone and Touchdown are registered trademarks of Zeneca Inc.

WEED SCIENTIFIC NAMES

BROADLEAF WEEDS

Anoda, spurred	(<i>Anoda cristata</i>)
Buffalobur	(<i>Solanum rostratum</i>)
Burcucumber	(<i>Sicyos angulatus</i>)
Carpetweed	(<i>Mollugo verticillata</i>)
Cocklebur, common	(<i>Xanthium strumarium</i>)
Copperleaf,	
hophornbeam	(<i>Acalypha ostryifolia</i>)
Virginia	(<i>Acalypha virginica</i>)
Eclipta	(<i>Eclipta prostrata</i>)
Galinsoga	(<i>Galinsoga</i>)
Jimsonweed	(<i>Datura stramonium</i>)
Knotweed	(<i>Polygonum</i>)
Kochia	(<i>Kochia scoparia</i>)
Lambsquarters, common	(<i>Chenopodium album</i>)
Mallow, Venice	(<i>Hibiscus trionum</i>)
Marestail	(<i>Coryza canadensis</i>)
Marshelder	(<i>Iva xanthifolia</i>)
Morningglory,	
entireleaf	(<i>Ipomoea hederacea</i> var. <i>intergriuscula</i>)
ivyleaf	(<i>Ipomoea hederacea</i>)
pitted	(<i>Ipomoea lacunosa</i>)
smallflower	(<i>Jacquemontia tamnifolia</i>)
tall	(<i>Ipomoea purpurea</i>)
Mustard Species	(<i>Brassica</i> spp.)
Nightshade,	
black	(<i>Solanum nigrum</i>)
eastern Black	(<i>Solanum ptycanthum</i>)
hairy	(<i>Solanum sarrachoides</i>)
Pigweed,	
Palmer	(<i>Amaranthus palmeri</i>)
redroot	(<i>Amaranthus retroflexus</i>)
smooth	(<i>Amaranthus hybridus</i>)
spiny	(<i>Amaranthus spinosus</i>)
Poinsettia, wild	(<i>Euphorbia heterophylla</i>)
Puncturevine	(<i>Tribulus terrestris</i>)
Purslane, common	(<i>Portulaca oleracea</i>)
Pusley, Florida	(<i>Richardia scabra</i>)
Ragweed,	
common	(<i>Ambrosia artemisiifolia</i>)
giant	(<i>Ambrosia trifida</i>)
Sage, barnyard	(<i>Salvia reflexa</i>)
Sida, prickly (Teaweed)	(<i>Sida spinosa</i>)
Smartweed,	
ladysthumb	(<i>Polygonum persicaria</i>)
Pennsylvania	(<i>Polygonum pensylvanicum</i>)

BROADLEAF WEEDS CONTINUED

Spurge,	
Prostrate	(<i>Euphorbia humistrata</i>)
Spotted	(<i>Euphorbia maculata</i>)
Sunflower, Common	(<i>Helianthus annuus</i>)
Texasweed	(<i>Caperonia palustris</i>)
Velvetleaf	(<i>Abutilon theophrasti</i>)
Waterhemp,	
common	(<i>Amaranthus rudis</i>)
tall	(<i>Amaranthus tuberculatus</i>)

GRASSES

Barnyardgrass	(<i>Echinochloa crus-galli</i>)
Corn, volunteer	(<i>Zea mays</i>)
Crabgrass,	
large	(<i>Digitaria sanguinalis</i>)
smooth	(<i>Digitaria ischaemum</i>)
Crowfootgrass	(<i>Dactyloctenium aegyptium</i>)
Cupgrass, woolly	(<i>Eriochloa villosa</i>)
Foxtail,	
giant	(<i>Setaria faberi</i>)
green	(<i>Setaria viridis</i>)
yellow	(<i>Setaria glauca</i>)
Goosegrass	(<i>Eleusine indica</i>)
Itchgrass	(<i>Rottboellia cochinchinensis</i>)
Johnsongrass, seedling	(<i>Sorghum halepense</i>)
Millet, wild-proso	(<i>Panicum miliaceum</i>)
Panicum,	
browntop	(<i>Panicum fasciculatum</i>)
fall	(<i>Panicum dichotomiflorum</i>)
Texas	(<i>Panicum texanum</i>)
Sandbur, field	(<i>Cenchrus incertus</i>)
Shattercane	(<i>Sorghum bicolor</i>)
Signalgrass, broadleaf	(<i>Brachiaria platyphylla</i>)
Sorghum-almum	(<i>Sorghum almum</i>)
Witchgrass	(<i>Panicum capillare</i>)

SEDGES

Nutsedge, yellow	(<i>Cyperus esculentus</i>)
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 North America Agricultural Products Division
 Crop Protection Products Department
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