PM 25 10182-363

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RESTRICTED USE PESTICIDE
Due to Ground and Surface Water Concerns and Oncogenicity

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

This product is a restricted use herbicide due to ground and surface water concerns and oncogenicity concerns. Users must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach ground and surface water.

SURPASS® 100
Selective Herbicide

A Preemergence Herbicide for Control of Annual Grass and Broadleaf Weeds in Field Corn, Production Seed Corn, Silage Corn and Popcorn

COMPLETE DIRECTIONS FOR USE

CONDITIONS OF SALE
AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of ZENECA or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold ZENECA and Seller harmless for any claims relating to such factors.

ZENECA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or ZENECA, and Buyer and User assume the risk of any such use. ZENECA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall ZENECA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ZENECA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ZENECA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

ZENECA and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of ZENECA.

Made in U.S.A.
ZENECA Ag Products
ZENECA Inc.
Wilmington, DE 19850-5458

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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 the label, find someone to explain it to you in detail.)

ACTIVE INGREDIENTS:

Acetochlor	
2-chloro-2'-methyl-6'-ethyl-N-ethoxymethylacetanilide	31.6%
Atrazine [2-chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine] and related triazines	21.1%
INERT INGREDIENTS:	47.3%
Total	100.0%

Contains 3 pounds acetochlor and 2 pounds atrazine active ingredient per gallon.

EPA Reg. No. 10182-363

STATEMENT OF PRACTICAL TREATMENT

FIRST AID
If a known exposure occurs or is suspected, immediately start the procedures given below. If further treatment is required, contact a Poison Control Center, a physician, or the nearest hospital.

IF SWALLOWED: Drink promptly a large quantity of milk, egg white, or gelatin mixture, or if these are not available, large quantities of water. Avoid alcohol. Have a physician determine if condition of patient will permit induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person.

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

IF IN EYES: Call physician. Keep eyelids open and flush with a gentle steady stream of water for 15 minutes.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention. Remove and clean any contaminated clothing and shoes.

IF INHALED: Remove to fresh air. Seek medical attention if respiratory irritation occurs or breathing becomes difficult.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL 1-800-F-A-S-T-M-E-D (327-8633).

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE. CAUSES SKIN IRRITATION. HARMFUL IF ABSORBED THROUGH THE SKIN. Do not get in eyes or on skin or on clothing. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Avoid breathing spray mist.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.
- 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.

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.

User Safety Recommendations

Users should:

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

ENVIRONMENTAL HAZARDS

Atrazine leaches readily and accepted label rates have been found to result in contamination of water supplies by way of groundwater. Therefore, users are advised to avoid use of atrazine in well-drained soils, particularly in areas having high groundwater tables.

Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

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

Acetochlor has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

PHYSICAL AND CHEMICAL HAZARDS

Do not use or store near heat or open flames.

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GENERAL INFORMATION

For use only on field corn, production seed corn, silage corn, popcorn. Corn in this label refers to all four types: field corn, production seed corn, silage corn and popcorn.

SURPASS® 100 is a unique combination of the herbicides acetochlor and atrazine plus the antidote or safener dichlormid. While the acetochlor provides weed control, the dichlormid safens corn against herbicide injury. SURPASS 100 may be applied to the surface or incorporated into the top 1-2 inch layer of soil. It is recommended for control alone, or in tankmix combinations as indicated, for the weeds listed in the "TARGET WEEDS" section of these use directions. SURPASS 100 controls weeds by interfering with normal germination and seedling development. SURPASS 100 does not control established or germinated weeds present at application.

USE RESTRICTIONS

- Do not apply to the following soils if groundwater depth is 30 feet or less: sand with less than 3% organic matter; loamy sand with less than 2% organic matter; or sandy loam with less than 1% organic matter.

- This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

- Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers with 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

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

- Do not use flood irrigation to apply or incorporate this product.

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- Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

- Do not apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or wind erosion:
  - Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
  - Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered soils.
  - Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least ½ inch of rainfall has occurred between application and the first irrigation.

- Do not apply this product using aerial application equipment.

- Do not apply when wind conditions favor drift to non-target sites. To minimize spray drift to non-target areas:
  - Use low-pressure application equipment capable of producing a large droplet spray.
  - Do not use nozzles that produce a fine droplet spray.
  - Minimize drift by using sufficient spray volume to ensure adequate coverage with large droplet size sprays.
  - Keep ground-driven spray boom as low as possible above the target surface.
  - Make application when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid application when gusts approach 15 mph.
- Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Avoid spraying during conditions of low humidity and/or high temperatures. Do not apply during inversion conditions.

GENERAL USE PRECAUTIONS

Read all label directions before using.

- ~~This product is intended for preplant or preemergence application only. No postemergence use is permitted.~~

- Failure to strictly follow label directions may result in exceeding the maximum annual atrazine use rates as stipulated by the Environmental Protection Agency.

- This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers of within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66-foot buffer or setback from runoff entry points must be started to crop, seeded with grass or other suitable crop.

- On highly erodible soils, as defined by the Soil Conservation Service (SCS), if conservation tillage is utilized (≥ 30% plant residue), the maximum rate of atrazine is 2 pounds ai/A. If plant residue is < 30%, the maximum rate of atrazine is 1.6 pounds ai/A. On soils not highly erodible, the maximum rate of atrazine is 2 pounds ai/A. The

maximum application rate for corn is 2.5 pounds atrazine active ingredient per acre per calendar year. Where sequential postemergence treatments with appropriately registered products containing atrazine are necessary, do not exceed a total of 2.5 pounds active ingredient atrazine per acre per calendar year. Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or higher setbacks) which are different from the label, the more restrictive/protective requirements apply.

- This product contains atrazine and thus may not control weeds that are known or suspected to be triazine resistant.
- SURPASS 100 may not be used on any crop other than corn.
- SURPASS 100 should not be used on corn seed stock such as Breeders, Foundation, or Increase.
- SURPASS 100 can be used on production seed corn.
- Do not contaminate irrigation water used for crops other than corn or water used for domestic purposes.
- Do not apply SURPASS 100 before pre-irrigation in irrigated areas.
- Do not allow SURPASS 100 to contaminate feed or food.
- SURPASS 100 should not be stored near seeds, fertilizers, or foodstuffs.
- All containers of SURPASS 100 should be kept tightly closed when not in use.
- Applied according to directions and under normal growing conditions, SURPASS 100 will not harm the treated crop. During germination and early stages of growth, extended periods of unusually cold and wet or hot and dry weather, insect or plant disease attack, carryover pesticide residues, the use of certain soil applied systemic insecticides, improperly placed fertilizers or soil insecticides may create abnormal conditions that weaken crop seedlings. SURPASS 100 used under these abnormal conditions could result in crop injury.
- Do not apply SURPASS 100 after June 10, unless only corn will be planted the following year.
- ROTATIONAL CROPS: Corn, soybeans and sorghum may be planted the spring following application. Wheat may be planted 15 months following treatment. Tobacco may be planted the spring following application. Because of atrazine carryover, injury may occur to tobacco.
- Do not rotate to crops other than corn, soybeans, sorghum, tobacco or wheat.
- Because of atrazine carryover, injury may occur to soybeans the year following corn when planted in north central and northwest Iowa, south central and southwest Minnesota, northern Nebraska and southeast South Dakota on soils having a calcareous surface layer.

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Caution: Following many years of continuous use of atrazine and chemically related products, biotypes of some of the weeds listed above have been reported which cannot be effectively controlled by atrazine and related herbicides. Where this is known or suspected and weeds controlled by atrazine are expected to be present along with resistant biotypes, it is recommended that atrazine be used in combinations or in sequence with other registered herbicides which are not triazines. If only resistant biotypes are expected to be present, use a registered non-triazine herbicide.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide 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 12 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.
- Waterproof gloves.
- Shoes plus socks.
- Protective eyewear.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

STORAGE: Keep container tightly closed when not in use. Do not store near seeds, fertilizers, or food stuffs. Can be stored at temperatures as low as minus 30°F.

PESTICIDE DISPOSAL: Rinse spray equipment. 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: Triple rinse (or equivalent); then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

FOR BULK AND MINI-BULK CONTAINERS
Container Disposal: Reseal container and offer for reconditioning, or triple rinse (or equivalent) and offer for recycling or reconditioning, or clean in accordance with manufacturer's instructions.
Container Precautions: Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

FOR MINI-BULK CONTAINERS: REFILL ONLY WITH SURPASS 100 selective herbicide. The contents of this container cannot be completely removed by cleaning. Refilling with materials other than SURPASS 100 will result in contamination and may weaken container.

After filling and before transporting, check for leaks.

Do not refill or transport damaged or leaking container.

Circulation before dispensing is required.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

APPLICATION DIRECTIONS - CORN

CARRIERS

Liquids: Either water or liquid fertilizers such as solutions, slurries or suspensions may be used as liquid carriers. If fluid fertilizers are used, a physical compatibility with these must be done before combining in the spray tank. See Appendix I for details of the compatibility testing procedure. Even if SURPASS 100 is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.

Dry Bulk Fertilizer: SURPASS 100 may be impregnated on dry bulk fertilizer and applied as the fertilizer is spread. See Appendix II for details including which fertilizers are compatible.

ADDING TO SPRAY TANK

The spray tank must be clean, thoroughly rinsed and decontaminated before adding either SURPASS 100 alone or with tankmix combinations. If water is used as the carrier, use clean water.

Used Alone: When SURPASS 100 is used alone, add the recommended amount to the spray tank when the tank is half filled, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Tank Mixed: If a tank mixture is used it is recommended that a compatibility test be done before actual tank mixing. See Appendix I for details on the procedure for such a test.

Once compatibility is confirmed for the tankmix, fill the tank half full. Start and continue agitation throughout mixing. All return lines to the spray tank must discharge below the liquid level. Add components in the following order of formulation:

- If a wettable powder or dry flowable formulation is used, make a slurry with water and add it slowly through the screen into the tank. Agitate during the procedure.
- If a flowable formulation is used, add slowly through screen into the tank. Mixing and compatibility may be improved when the flowable is diluted with water before adding to the tank.
- Add SURPASS 100 next.
- Add GRAMOXONE® EXTRA and a nonionic surfactant last, if needed.
- Complete filling the sprayer tank and continue agitation.
- Batches should be mixed and applied the same day.

VOLUME

Liquid: Use a minimum of 10 gallons per acre in broadcast boom equipment for ground applications.

Dry Bulk Fertilizer: Use a minimum of 200 pounds of dry bulk fertilizer per acre. See Appendix II for more details.

PRESSURE

If liquid carriers are used, the pressure at the nozzle should be 15 to 40 psi to ensure good distribution in the spray pattern. Use appropriate nozzles and 50-mesh or coarser screens. Maintain sufficient agitation to ensure the mixture is suspended in the spray tank.

APPLICATION TIMING AND METHODS

Early Preplant: On medium and fine textured soils, SURPASS 100 may be applied up to 30 days prior to planting.

Preemergence Surface: SURPASS 100 and certain tankmixes may be applied to the soil surface as a broadcast or banded application. Precipitation or sprinkler irrigation is necessary to bring SURPASS 100 into contact with germinating seeds. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe, or similar device, to incorporate the herbicide. Do not remove SURPASS 100 from the weed control zone or dilute it with untreated soil. The device used should be run at a shallow depth to prevent disturbing the corn seed. ~~SURPASS 100 must be applied prior to corn emergence.~~

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Preplant Incorporation: SURPASS 100 and certain tankmixes may be mechanically incorporated in the top 2 inches of the soil with field cultivators, discs, or spring tooth harrows at any time within 14 days prior to planting. Improper incorporation, excessive crop residues, or poor soil tilth may result in erratic, streaked or otherwise unsatisfactory weed control.

Sprinkler Irrigation: *Do not apply SURPASS 100 by sprinkler irrigation.* Use a sprinkler system only to incorporate SURPASS 100 after application. After SURPASS 100 has been applied, a sprinkler irrigation system set to deliver ¼ to ¾ inches of water per acre may be used to incorporate the product. Using more than ¾ inches of water could result in reduced performance. On sandy soil low in organic matter, use no more than ½ inch of water. Do not use flood irrigation to apply or incorporate SURPASS 100.

Postplant-Preemergence: SURPASS 100 and certain tankmixes may be applied immediately after planting but prior to corn emergence. ~~SURPASS 100 should not be applied to emerged corn.~~ If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe, or similar device, to shallowly incorporate the herbicide. Do not remove SURPASS 100 from the weed control zone or dilute it with untreated soil. Do not disturb the germinating corn.

Banding-Preemergence: SURPASS 100 and certain tank mixtures may be applied in a 10 to 14 inch band after corn planting but prior to corn emergence. If rain or sprinkler irrigation does not occur within 7 days after application, weed control may be improved by using a rotary hoe or similar device to incorporate the herbicide. Do not remove SURPASS 100 from the weed control zone or dilute it with untreated soil. Do not disturb the germinating corn.

~~**Early Postemergence:** SURPASS 100 may be used early postemergence (up to 11" tall) in corn. Applications must be made prior to weed seedling emergence or in a tank mixture that controls the emerged weeds. Read and follow restrictions and directions on tankmix product labels.~~

PLANTING

Planting should be done as close to the time of application of SURPASS 100 as possible. This allows SURPASS 100 to provide effective weed control during the time it is most critical in the production of corn. ~~Applications of SURPASS 100 can be made after planting but prior to emergence. The corn must not be emerged when SURPASS 100 is applied.~~

CULTIVATION

Cultivation should be delayed as long as possible. Should weeds develop, a shallow cultivation or rotary hoeing will generally result in improved weed control. If SURPASS 100 was incorporated, cultivate less than ½ the depth of incorporation.

If cultivation is necessary due to soil crusting, compaction, or escaped weeds adjust equipment to run shallow and minimize soil movement. This will decrease the possibility of diluting or moving the herbicide from the weed control zone.

SEQUENTIAL HERBICIDE APPLICATIONS

- Accent® herbicide, Beacon® herbicide
  A sequential treatment with Accent or Beacon is recommended for escapes of Johnsongrass and Shattercane.

- 2,4-D, Banvel®, Clarity®, Buctril®, Buctril/Atrazine, Marksman®, Basagran®, Laddock®
  A sequential treatment with 2,4-D, Banvel, Clarity, Buctril, Buctril/Atrazine, Marksman, is recommended for escapes of broadleaves.

- Use sequential herbicides at recommended rates found on the manufacturer's label.

- Products not listed may also be used if desired.

SOIL TEXTURE AND ORGANIC MATTER

The soils are grouped into three classes, coarse, medium and fine. Once the soil type has been determined, the texture group can be found in the Table 1.

TABLE 1
Soil Texture Groupings for SURPASS 100 Use Rate Selection.

Coarse	Medium	Fine
Sand	Loam	Silty Clay Loam
Loamy Sand	Silt	Sandy Clay Loam
Sandy Loam	Silt Loam	Silty Clay
		Sandy Clay
		Clay Loam
		Clay

The soil texture and organic matter of the field on which the application is to be made must be determined prior to application. The use rate of SURPASS 100 is determined by a combination of these two factors.

USE RATES IN CONVENTIONAL TILLAGE SYSTEMS

The soil texture and organic matter level of the field on which SURPASS 100 is to be applied should be determined prior to selecting the rate from Table 2.

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TABLE 2
SURPASS 100 Use Rates by Soil Texture and Organic Matter Content in Conventional Tillage Systems. Rates are in Quarts per acre.

SOIL TEXTURE	SOIL ORGANIC MATTER CONTENT	
	Less than 3%	3% or Greater
Coarse	1.6 - 2.0 qts	1.6 - 2.4 qts
Medium	1.6 - 2.4 qts	2.2 - 2.6 qts
Fine	2.2 - 2.6 qts	2.6 - 3.3 qts

These rates are for application within 14 days prior to planting, after planting, before emergence of the corn and following emergence. Use Table 3 if no-till applications are made or the product is applied more that 2 weeks prior to planting in conventional tillage.

Organic Matter: If the organic matter content of the soil is at the lower end of the range, use the lower rates in the rate range given in Table 2. If the organic matter content is at the upper end of the range, use the higher rates given in the rate range.

Weed Infestation: If the weed infestation is light, use a rate at the lower end of the rate range for the soil texture and organic matter content. If the weed infestation is heavier, use the higher rates in the rate range for the soil.

USE RATES FOR REDUCED OR NO TILL SYSTEMS

SURPASS 100 may be used in reduced or no-till systems. Application can take place from up to 30 days prior to planting or after planting but before the corn emerges. The highest levels of control will be obtained when applications are made as close to planting as possible but before the corn emerges. It is recommended that a burndown herbicide such as GRAMOXONE EXTRA be tank mixed with SURPASS 100 in reduced or no-till systems.

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TABLE 3[1]
SURPASS 100 Use Rates by Soil Texture and Organic Matter Content in Reduced or No-Till Systems. Rates are in Quarts per acre.

SOIL TEXTURE	TIME OF APPLICATION RELATIVE TO PLANTING		
	GREATER THAN 14 DAYS BEFORE PLANTING	LESS THAN 14 DAYS BEFORE OR AFTER PLANTING BUT PRIOR TO EMERGENCE	AFTER PLANTING AND/OR EMERGENCE
Coarse	Do not apply more than 14 days before planting in coarse textured soils	1.6 - 2.4	1.6-2.4
Medium	2.6 - 3.3	2.2 - 2.6	2.2-2.6
Fine	3.3	2.6 - 3.3	2.6-3.3

[1] Rates are for single applications. SURPASS 100 may be split-applied. If the rate is split, apply 2/3 of the recommended rate up to 30 days before planting. The remaining 1/3 should be applied at planting.

BAND APPLICATIONS

For band applications, using row and band width measurements in inches, calculate the amount to be applied per acre as follows:

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Rate per acre for a broadcast treatment} = \text{Amount needed per acre}$$

WEEDS CONTROLLED:

SURPASS 100 applied as directed in this label will control or suppress the weeds listed in Table 4. Additional weeds may be controlled with tankmixes. See the "Tankmix Combinations" section for recommended tankmix combinations. Always consult the tankmix product labels for specific rates and use directions. Always follow the most restrictive label when tank mixing SURPASS 100 with another product. You may tank mix SURPASS 100 with any other registered corn product as long as compatibility is verified and it is not prohibited by the other product label.

TABLE 4
Weeds Controlled or Partially Controlled by SURPASS 100 at Recommended Use Rates.

COMMON NAMES	WEED TYPE [1]	SCIENTIFIC NAME	C = CONTROL PC = PARTIAL CONTROL
Black nightshade	B	*Solanum nigrum*	C
Carpetweed	B	*Mollugo verticillata*	C
Cocklebur [3]	B	*Xanthium strumarium*	PC
Common ragweed	B	*Ambrosia elatior*	C
Florida beggarweed	B	*Desmodium tortuosum*	C
Florida pusley	B	*Richardia scabra*	C
Galinsoga	B	*Galinsoga parviflora*	C
Giant ragweed	B	*Ambrosia artemisiifolia*	PC
Hairy nightshade	B	*Solanum sarachoides*	C
Kochia	B	*Kochia scoparia*	PC
Jimsonweed	B	*Datura stramonium*	C
Lambsquarters	B	*Chenopodium album*	C
Morningglory	B	*Ipomea* spp.	C
Prickly sida	B	*Sida spinosa*	C
Purslane, common	B	*Portulaca oleracea*	C
Redroot pigweed	B	*Amaranthus retroflexus*	C
Sicklepod	B	*Cassia obtusifolia*	C
Smartweed spp.	B	*Polygonum* spp	C
Tall waterhemp	B	*Amaranthus tuberculatos*	C
Velvetleaf [3]	B	*Abutilon theophrasti*	PC
Barnyardgrass	G	*Echinochloa crus-galli*	C
Broadleaf signalgrass	G	*Brachiaria platyphylla*	C [4]
Browntop panicum	G	*Panicum fasciculatum*	C
Crabgrass	G	*Digitaria* spp	C

cultivation or follow-up herbicide may be needed.

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SURPASS 100 TANKMIX COMBINATIONS

USE OF SPRAY ADJUVANTS

SURPASS 100 is a preemergence herbicide for which spray adjuvants have little or no influence on performance. However, several herbicides used in tank mixtures with SURPASS 100 require use of adjuvants to aid in the burndown of emerged weeds. Use only those adjuvants to aid in the burndown of emerged weeds. Use only those adjuvants approved for agricultural crop use. Surfactants and/or low rate fertilizer (28%, 30% or 32% UAN or ammonium sulfate) adjuvants may be used with tankmixes applied preplant or preemergence to the crop.

PREEMERGENCE TANKMIX COMBINATIONS

Tankmix combinations may be used in either conventional, reduced or no-till systems and be applied by the same methods and at the same timings as SURPASS 100 unless otherwise specified in the tankmix product label. Three way tank mixtures are allowed if not restricted by the respective product labels. Check all tankmix product labels for proper rates for 3 way tankmixes.

When tank mixing SURPASS 100 with atrazine, do not exceed the maximum allowable rate of atrazine in your county or state. In some atrazine management areas, atrazine is more restricted. Consult your county extension office or state university for further information.

CONVENTIONAL TILLAGE

TANKMIX EXAMPLES*	RATE (MAX.)	COMMENTS
Atrazine 4L	1 qt/acre	- longer growing season areas - high rainfall areas - heavy broadleaf weed pressure
Bladex® 4L	2 qts/acre	- high pH soils - Atrazine carryover areas - when injury to rotated soybeans is a concern - field and silage corn only
ERADICANE® 6.7-E or SUTAN®+ 6.7E	4 - 6 pts/acre	- tank mix with 1 to 1.5 qt/acre SURPASS 100 for improved grass and broadleaf control - must be incorporated - enhance nutsedge control
Lorox® DF	1 lb/acre	- enhanced lambsquarter and pigweed control

Princep® 4L	1 qt/acre	- improve crabgrass or fall panicum control
SURPASS EC	1 pt/acre	- enhanced grass and nutsedge control

*Formulations which are not listed may be used: Perform compatibility test and check the product label for directions and precautions.

REDUCED OR NO-TILL CORN

TANKMIX EXAMPLES*	RATE (MAX.)	COMMENTS
Atrazine 4L	1 qt/acre	- longer growing season areas - high rainfall areas - heavy broadleaf weed pressure
Banvel/Clarity	1 pt/acre	- burndown existing weeds
Bladex 4L	2 qts/acre	- high pH soils - atrazine carryover areas when rotating to soybeans - field and silage corn only
GRAMOXONE EXTRA	3 pints/acre	- control annuals, suppress perennials
Princep 4L	1 qt/acre	- improved crabgrass or fall panicum control
SURPASS EC	1 pint/acre	- enhanced grass and nutsedge control
2,4-D	see label	- burndown existing weeds

*Formulations which are not listed may be used: Perform compatibility test and check the product label for directions and precautions.

SURPASS 100 & GRAMOXONE EXTRA

In reduced or no-till corn, GRAMOXONE EXTRA will burndown existing weeds. GRAMOXONE EXTRA should be applied to emerged weeds when they are small. Weeds 1 to 6 inches in height are the easiest to control. Large weeds may be more difficult to control. Tankmixes with atrazine and Bladex will often aid in control of difficult weeds.

GRAMOXONE EXTRA is a RESTRICTED USE pesticide. Refer to the GRAMOXONE EXTRA label for further directions, precautions, and limitations relative to its use.

GRAMOXONE EXTRA USE RATES

Always add an approved nonionic surfactant containing at least 50% active ingredient or crop oil concentrate at 1% (v/v) to the spray mixture.

TABLE 5
Nonionic Surfactant and Crop Oil Concentrate Use Rates for GRAMOXONE EXTRA.

SURFACTANT % NONIONIC ACTIVE INGREDIENT	Rate of Surfactant Per 100 Gallons of Water
75% or greater	1 pint
50 - 74%	2 pints
Less than 50%	DO NOT USE
Crop Oil Concentrate	1% v/v or 1 gal/100 gal.

TABLE 6
Use Rates in Pints per acre of GRAMOXONE EXTRA.

WEED SIZE	GRAMOXONE EXTRA RATE
1" - 3"	1½ - 2
3" - 6"	2 - 2½
6"	2½ - 3

POSTEMERGENCE TANKMIX COMBINATIONS

SURPASS 100 may be applied before, with, or following the use of one or more of the following herbicides: Accent®, atrazine, Banvel®, Basis®, Beacon®, Bladex®, Buctril®, Buctril/atrazine, Clarity®, Exceed®, Extrazine® II, Marksman®, Peak®, Permit®, Princep, Prowl®, Pursuit, Shotgun®. Read the other product label(s) for precautions and restrictions. SURPASS 100 may be tank mixed with any product approved for use on corn unless it is prohibited on the other manufacturer's label.

When tank mixed, read the other product label and follow the additional use directions given in this table.

SURPASS 100 PLUS:

PRODUCT	RATE	COMMENTS
Banvel Clarity Marksman	0.5 - 1 pt/A 8 - 16 oz/A 2 - 3.5 pt/A	• Apply preplant or preemergence in reduced/ no-till systems. • Preemergence on all soils; medium and fine textured with > 2% OM. • Early postemergence up to 8" tall corn on all soils. If grasses are more than 2- leaf stage, combine with another herbicide to control these weeds.
Buctril Buctril/atrazine Shotgun	1.5 pt/A 2 pt/A 2 - 3 pt/A	• Refer to product label for use directions. • Refer to Shotgun label for timing and use directions.
Atrazine	.5 - 2.0 lb ai/A	• Preplant surface, preplant incorporated, preemergence or early postemergence (up to 8" tall corn). If emerged weeds are greater than 1.5 inches tall at the time of application, add an appropriate postemergence herbicide.
Bladex Extrazine II	1.0 - 2.0 lb ai/A 1.0 - 2.0 lb ai/A	• Postemergence (up to 4-leaf stage of corn) but before weeds are more than 1.5" tall. Apply in water only. Do not spray emerged corn plants with a mixture containing liquid fertilizer. These mixtures are not recommended on sand or loamy sand soils with less than 1% organic matter.
Prowl 3.3 EC	1.6 - 3.6 pt/A	• Preemergence to early postemergence (up to 3" tall corn) but before weeds are more than 1" tall.
Princep	1.0 - 3.0 lb ai/A	• Preplant surface, preplant incorporated, preemergence to corn.
Pursuit 2.5L Pursuit 70DG	4 fl oz/A 1.4 fl oz/A	• Use only on Pursuit resistant (IR) or tolerant (IT) varieties. • Apply preplant surface, preplant incorporated, preemergence or early postemergence (up to 3" tall weeds).

2,4-D Ester		• Apply preplant surface or preemergence to control emerged broadleaf weeds in corn.
Accent 75WDG Beacon 75WDG Basis	¼ - ⅔ oz/A 76 fl oz/A ⅛ - ⅜ oz/A	• Minimum SURPASS 100 use rates (Qts/Acre): Soil: < 3%OM; 3-7%OM; > 7%OM Coarse: 1.6; 1.6; 2.2 Medium: 1.6; 1.6-2.2; 2.4-2.6 Fine: 1.6; 1.6-2.2; 2.6 • Always add NIS at .25% (v/v); and in addition if applied in dry conditions, add 4% (v/v) clear liquid fertilizer. • Banvel, Clarity, Marksman, Buctril, Buctril/atrazine may be added to this mixture to provide burndown and residual control of broadleaf weeds.

APPENDIX I

Procedure for Testing the Compatibility of SURPASS 100 and Tankmixes with Fluid Fertilizers.

Since fluid fertilizers vary, the following procedure is suggested for determining whether SURPASS 100 may be combined with a specific fluid fertilizer for spray tank application.

MATERIALS NEEDED:

- SURPASS 100 and any tankmix products.
- Fluid fertilizer to be used.
- Adjuvant for fertilizer tankmix: Use any adjuvant cleared for use on growing crops under 40 CFR 180.1001 to improve the compatibility of SURPASS 100 with fluid fertilizers. The adjuvant which provides the best emulsification depends on the specific fertilizer under consideration.
- Two 1 quart, wide mouth glass jars with lid or stopper.
- Measuring spoons (a 25 mL pipette or graduated cylinder provides more accurate measurement).
- Measuring cup, 8 ounces (257 mL).

PROCEDURE:

1. Pour a pint (about 473 mL) of the fluid fertilizer into each of the quart jars.
2. Add SURPASS 100 and any tankmix combination to the jars. The order of addition is wettable powders first with mixing, followed by flowables with mixing and the EC's last. The rate of wettable powders and dry flowables is 1½ teaspoon per pound of product per acre to be applied. EC's should be added at the rate of ½ teaspoon for each pint per acre to be applied. Premixing the wettable powders in 1 ounce of water before adding to the pint of fluid fertilizer will improve the compatibility of the final mixture.
3. Add ½ teaspoon (2 mL) adjuvant to one of the jars, label it as "with", and mix. The rate of ½ teaspoon per pint is equal to 3 pints of adjuvant per 100 gallons of fluid fertilizer.
4. Close both jars with lids or stoppers and mix the contents by turning the jars upside down ten times.
5. Inspect the surface and body of the mixtures-
   (a) Immediately after completing the jar inversions.
   (b) After allowing the jars to stand quietly for 30 minutes.
   (c) And then again after turning the jars upside down 10 times after the 30 minute inspection.

EVALUATION:

If either mixture remains uniform for 30 minutes, the combination may be used. Should either mixture separate after 30 minutes, but readily remix uniformly with 10 jar inversions, the mixture can be used if adequate agitation is maintained in the tank. If the mixture with adjuvant is satisfactory but the one without adjuvant is not, be sure to use the adjuvant in the spray tank. Add the adjuvant first at a rate of 3 pints per 100 gallons of fluid fertilizer. Foaming may be minimized by using moderate agitation. **IF NONDISPERSIBLE OIL, SLUDGE, OR CLUMPS OF SOLIDS FORM IN THE MIXTURES, THE COMBINATION SHOULD NOT BE USED.**

APPENDIX II

Dry Bulk Fertilizer Impregnation

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 SURPASS 100, SURPASS 100 plus atrazine or SURPASS 100 plus Bladex.

When applying SURPASS 100 alone or in tankmixes with dry bulk fertilizers, follow all directions for use and precautions on the respective tankmix product labels regarding rates, soil texture, application methods and rotational restrictions. Use a minimum of 200 pounds dry fertilizer per acre.

TABLE 7
Approved Dry Fertilizer Ingredients for Use with SURPASS 100.

FERTILIZER	N	P	K
Ammonium Phosphate-Sulfate	16	20	0
Ammonium Sulfate	21	0	0
Diammonium Phosphate	18	46	0
Monoammonium Phosphate	11	56	0
Potassium Chloride	0	0	60
Potassium Sulfate	0	0	52
Urea[1]	45	0	0

[1]Some Ureas may be phytotoxic when high rates are applied to corn. Use only urea rates known to be safe for corn application.

For impregnating the pesticides on dry fertilizers, use an appropriate mixer equipped with suitable spraying equipment. The spray nozzles should be positioned inside the mixer to provide uniform spray coverage of the tumbling fertilizer. The SURPASS 100 should be sprayed uniformly onto the fertilizer using a fine spray pattern. Tankmix components may be applied as separate ingredients with powders and dry flowables added first or they may be mixed in a slurry in the proper ratio and added jointly. SURPASS 100 may also be impregnated on the go and applied with pneumatic applicators.

The following table provides a reference to determine the amount of SURPASS 100 to be mixed per ton of dry bulk fertilizer for a range of herbicide rates

Fertilizer Rate (Lbs per Acre)	Acres per Ton	SURPASS 100 (Qts per Acre)		
		-- Quarts Herbicide per Ton --		
		1.6	2.4	3.3
200	10.0	16.0	24.0	33.0
300	6.7	10.7	16.1	22.1
400	5.0	8.0	12.0	16.5
500	4.0	6.4	9.6	13.2
600	3.3	5.3	7.9	10.9
700	2.9	4.6	7.0	9.6

To determine the amount of SURPASS 100 needed for other rates of fertilizer, use this formula:

$$\frac{\text{SURPASS 100 (quarts/acre)}}{\text{pounds fertilizer/acre}} \times 2000 = \text{qts of SURPASS 100 per ton of fertilizer}$$

If the herbicide/fertilizer mixture is too wet, use of a drying agent is required to provide a dry, free-flowing mixture. For mixtures to be used in spinning-disc applicators, Microcel E calcium silicate powder (Manville, Filtration & Minerals) is recommended for use as a drying agent. Mixtures to be used in pneumatic applicators should use Microcel E or Agsorb 16/30 RVM-MS granular clay (Oil-Dri Corporation). The drying agents should be added separately and uniformly to the prepared pesticide/fertilizer mixture, in a quantity that is sufficient to provide a suitable free-flowing mixture. Generally, less than 2% Microcel E or 5% Agsorb 16/30 RVM-MS by weight is required.

PRECAUTION:
To avoid potential for explosion, do not impregnate SURPASS 100 on ammonium sorbate nitrate, potassium nitrate, or sodium nitrate fertilizer or fertilizer blends. Do not impregnate on single (0-20-0) or triple(0-46-0) super phosphate. Do not impregnate on straight limestone because the SURPASS 100 will not be absorbed.