GROUP 14 HERBICIDE

SHUTDOWN™

HERBICIDE

ACTIVE INGREDIENT:	By Wt.
Sulfentrazone	40.7%
OTHER INGREDIENTS:	59.3%
TOTAL:	100.0%

Contains 4.16 pounds of active ingredient per gallon

EPA Reg. No. 70506-326

KEEP OUT OF REACH OF CHILDREN

CAUTION

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.)

FIRST AID	
If in Eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes. Then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on Skin	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If Swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything to an unconscious person.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, contact the Rocky Mountain Poison and Drug Center at 1-866-673-6671.

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

HERBICIDE

NET CONTENTS: _____ GALLONS

UPI

United Phosphorus, Inc. • 630 Freedom Business Center, Suite 402 • King of Prussia, PA 19406 U.S.A. • 1-800-438-6071

PRECAUTIONARY STATEMENTS
Hazards to Humans (and Domestic Animals)
CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils, and shoes plus socks.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations:

Users should:

- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is toxic to marine/estuarine invertebrates. 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 may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

Groundwater advisory: This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Do not use on coarse soils classified as sand, which have less than 1% organic matter.

Surface water advisory: Sulfentrazone can contaminate surface water through spray drift. Under some conditions, sulfentrazone may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

Physical/Chemical Hazards

Do not use or store near heat or open flame.

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.

Observe the limitations in the crop-specific use directions regarding the allowed amount of Shutdown Herbicide per acre which may be applied in a twelve-month period. The twelve-month period is considered to begin with the initial Shutdown Herbicide 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. These requirements 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.

Personal Protective Equipment (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 long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material, and shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow others to enter the treated area until sprays have dried.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not use or store around the home.

Pesticide Storage

Store product in original container only, away from other pesticides, fertilizer, food or feed.

Store in a cool, dry place and avoid excess heat.

In Case of Spill

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (Transportation and spills): (800) 424-9300.

To Confine Spill

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal

Waste resulting from the use of this product may be disposed of at an approved waste disposal facility.

Container Disposal

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: (For containers greater than 5 gallons) Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. (For containers 5 gallons or less) Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Triple rinse (or equivalent). Then offer for recycling if available, 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.

Returnable/Refillable Containers. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

RESISTANCE MANAGEMENT

Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of herbicide resistance is well understood, it is not easily predicted. Therefore herbicides should be used in conjunction with the resistance management strategies in the area. Consult the local or State agricultural advisors for details. If herbicide resistance should develop in the area, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain of weeds may have developed.

To reduce the potential for weed resistance use this product in a rotation program with other classes of chemistry and modes of action.

Always apply this product at the specified rates and in accordance with the use directions. Do not use less than specified label rates alone or in tank mixtures. Do not use reduced rates of the tank mix partner.

For best results, this product should be applied when weeds are small. Scout fields carefully to determine the appropriate time for application. Scout fields carefully after application for performance in control of weeds. If resistance is suspected, contact the local or State agricultural advisors.

PRODUCT INFORMATION

FOR ALL TANK MIXTURES: It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Shutdown Herbicide controls susceptible germinating broadleaf, grass and sedge weeds. Apply Shutdown Herbicide before crop seed germination to prevent injury to the emerging crop seedlings. Injury is possible if application is made when seeds are germinating or if they are located near the soil surface. Adequate moisture (1/2" to 1") from rainfall or irrigation is required within 7 to 10 days after application; if it is not, a shallow incorporation may be needed to obtain desired weed control. If conditions are dry when Shutdown is applied and activating moisture is received, weed control may be reduced.

Observe all applicable instructions, restrictions, directions, precautions, replanting directions, rotational crop guidelines and other label information of each product when tank mixing with Shutdown Herbicide.

Proper handling instructions: Shutdown Herbicide may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sinkholes, 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 pads 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 within 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 wash water, 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 specific 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.

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

APPLICATION INSTRUCTIONS

Apply Shutdown Herbicide to soil as a preplant incorporated treatment or as a preemergence (before weed and/or crop emergence) surface application. Additional application methods, specified in the following sections of the label, include post-plant treatments, over-the-top and layby, in various crops.

Preplant incorporated treatments require a uniform surface application followed by incorporation. Do not incorporate to a depth greater than 2 inches which may result in poor weed control. Take care not to create overlaps in treated zones due to soil movement, which will result in excessive Shutdown Herbicide rates that could cause adverse crop response.

All soil applications and the residual activity of post-plant applications of Shutdown Herbicide need to be activated by moisture for the product to be effective. Moisture can come from rain or irrigation. The ultimate amount of moisture, whether supplied by rainfall or irrigation, is dependent on several factors such as existing soil moisture at application, soil type, organic matter and tilth. When rainfall is not likely and irrigation is not possible particularly for surface applications of Shutdown Herbicide, shallowly incorporate the product to activate the product and destroy germinating weeds. If there are prolonged periods without moisture of any kind, other weed control practices may be needed.

Extreme care must be exercised and the Crop Specific Use Directions followed exactly in crops allowing post plant applications of Shutdown Herbicide. Over-the-top and lay-by applications will provide contact and residual weed control, depending on species. The addition of appropriate surfactants may increase contact weed control performance but may also increase the risk of adverse crop response as well.

SHUTDOWN HERBICIDE PRODUCT USE RATES

The following directions for the selection of Shutdown Herbicide application rates are critical to achieve maximum performance and to insure maximum crop safety. Because some crops will respond differently to Shutdown Herbicide based on soil factors and crop sensitivity, read and follow the crop-specific Shutdown Herbicide use directions and restrictions for each crop. The Crop Specific Use Directions have been designed to minimize the risk of adverse crop response while maintaining optimum weed control.

Mode of Action

Sulfentrazone, the active ingredient in Shutdown Herbicide, is a potent inhibitor of the enzyme Protoporphyrinogen Oxidase IX (PPO IX) required for the formation of chlorophyll. Inhibition of PPO IX enzyme results in the liberation of singlet oxygen (O) that, in turn, disrupts cellular membranes and causes cellular leakage. The ultimate manifestation of the process is cellular death leading to plant death. The selective herbicidal activity of sulfentrazone is based on its greater affinity for the PPO IX enzyme in weed species versus crop plants.

Mechanism of Action

Following the application of Shutdown Herbicide to soil, germinating seeds and seedlings take up sulfentrazone from the soil solution. The amount of sulfentrazone in soil surface, and available for weed uptake, is determined primarily by soil type, organic matter and soil pH. Sulfentrazone adsorbs to the clay and organic matter (OM) fractions of soils, effectively limiting the amount of active ingredient immediately available to control weeds. Soils typically increase in clay content through the series from coarse to fine as noted in the following Soil Classification Chart.

Soil Classification Chart

COARSE	Sand, loamy sand, sandy loam
MEDIUM	Sand clay loam, sandy clay, loam, silt loam, silt
FINE	Silty clay loam, silty clay, clay loam, clay

Influence of Soil type, organic matter and pH on Shutdown Herbicide Use Rate and Crop Response

Accurate analysis of soil organic matter content and soil pH is essential for optimum control of weeds by Shutdown Herbicide. As soil pH increases, sulfentrazone availability increases.

The total amount of sulfentrazone available in solution, in any given soil, is determined by the interaction of soil type (clay content), % organic matter and pH. The application timing (relative to the emergence of the crop and weeds) and amount of moisture in the form of rainfall and/or irrigation received will ultimately determine, in conjunction with the soil parameters and pH, the amount of sulfentrazone in soil solution. Shutdown Herbicide can await activating moisture, but weed control may lessened due to the successive increase in weed growth versus timing of activation.

Irrigation with highly alkaline water (high pH) following a Shutdown Herbicide soil application can also significantly increase the amount of sulfentrazone available in the soil solution. Irrigation with water having a pH greater than 7.5 could result in adverse crop response. This response will depend on initial Shutdown Herbicide application rate, timing, amount and pH of irrigation water and sensitivity of the crop and its growth stage when irrigated. The risk of adverse crop response will lessen with the advance in growth stage among most crops. The following Crop Specific Use Directions have been designed with specific Shutdown Herbicide directions for each crop based on the soil type, soil organic matter, and soil pH interactions described above. The user is cautioned that close attention to these directions will result in best crop tolerance and weed control.

APPLICATION INFORMATION

Ground Application

Apply a minimum of 10 gallons of finished spray per acre by ground. Use a boom and nozzle sprayer equipped with the appropriate nozzles, spray tips and screens and adjusted to provide optimum spray distribution and coverage at the appropriate operating pressures. Nozzles that produce minimal amounts of fine spray droplets will help avoid spray drift or inadequate foliar and/or soil coverage. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Restrictions:

Ground applications must use a minimum finished spray volume of 10 gallons per acre.

When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.

For boom spraying, the maximum release height is 30 inches from the soil for ground applications.

Aerial Application

Apply a minimum of 5 gallons of finished spray per acre. Use nozzle types and arrangements that will provide optimum coverage while producing a minimal amount of fine droplets. Apply sufficient spray volume to achieve adequate coverage.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Restrictions:

Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment.

When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.

The maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.

Chemigation Application

Shutdown Herbicide may be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system. Crop injury, lack of effectiveness or illegal residues on or in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

It is important to note that irrigation with highly alkaline water (high pH) following a Shutdown Herbicide soil application can also significantly increase the amount of sulfentrazone available in soil solution. Irrigation with water having a pH greater than 7.5 could result in adverse crop response. This response will ultimately depend on initial Shutdown Herbicide application rate, application timing, amount and pH of the irrigation water, and the sensitivity of the crop and the growth stage when irrigated. The risk of adverse crop response will lessen with advancing growth stages of most crops.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Shutdown Herbicide should be metered into the irrigation system continuously for the duration of the water application. Shutdown Herbicide should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the soil surface. Continuous agitation is required to maintain product suspension in the solution tank. A jar test should be conducted to ensure that phase separation would not occur during dilution and application.

Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable weed control. Flush the lines at the completion of the application and then turn the water off promptly.

When using water from public water systems; DO NOT APPLY SHUTDOWN HERBICIDE THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. Shutdown Herbicide may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide introduction.

There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

Application with Dry Fertilizers

Shutdown Herbicide may be applied impregnated on dry fertilizers. When applied as directed with adequate soil coverage, Shutdown Herbicide dry bulk fertilizer mixtures will provide satisfactory weed control. Follow all label directions regarding product use rates per acre, registered crops, incorporation, special instructions and precautions.

Apply Shutdown Herbicide/dry fertilizer mixtures with ground equipment only.

All individual state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company preparing, storing, transporting, selling or applying the Shutdown Herbicide/dry fertilizer mixture.

Impregnation Directions

To impregnate Shutdown Herbicide on dry bulk fertilizer, use a closed rotary drum mixer or other commonly used dry bulk fertilizer blender equipped with suitable spray equipment. Prepare slurry of Shutdown Herbicide in a clean container using clear water. Slowly add the Shutdown Herbicide/water slurry to the impregnation spray tank and finish filling as needed with clear water. Spray nozzles must be placed to provide uniform coverage of Shutdown Herbicide onto the fertilizer during mixing.

Refer to the SPRAYER EQUIPMENT CLEAN-OUT section for directions for cleaning impregnation equipment, transport equipment, loading equipment and application equipment.

Apply the Shutdown Herbicide dry bulk fertilizer with an accurately calibrated dry fertilizer spreader. The Shutdown Herbicide dry bulk fertilizer mixture must be spread uniformly on the soil surface. Uneven spreading leaving untreated areas can cause poor weed control or overlapping areas with potential increased Shutdown Herbicide use rates could result in possible crop response.

A minimum of 200 pounds of dry bulk fertilizer impregnated with the recommended amount of Shutdown Herbicide must be applied per acre to achieve adequate soil coverage for satisfactory weed control.

DO NOT impregnate Shutdown Herbicide onto coated ammonium nitrate or limestone because these materials will not absorb the herbicide. Refer to the appropriate crop section of this label to determine the rate of Shutdown Herbicide to be applied per acre. Use the following table to determine the amount of product to be impregnated on a ton (2000 pounds) of dry bulk fertilizer based on the rate of fertilizer that will be applied per acre. For those rates not listed in the following table, calculate the amount of Shutdown Herbicide to be impregnated on a ton of dry bulk fertilizer using the following formula:

Banded Applications – Calculate the rates and volumes required by using the following formulas:

$$\frac{2000}{\text{pounds dry fertilizer per acre}} \times \text{Shutdown Herbicide Use Rate in fl. oz. per acre} = \text{Ounces of Shutdown Herbicide to be applied per ton of fertilizer}$$

RATE CHART FOR IMPREGNATION OF DRY BULK FERTILIZERS WITH SHUTDOWN HERBICIDE

Dry Fertilizer Rate (lbs./acre)	Ounces Shutdown Herbicide Per Ton of Fertilizer		
	Shutdown Herbicide Use Rate Per Acre		
	7.8 Fl. Oz. Per Acre	9.8 Fl. Oz. Per Acre	11.8 Fl. Oz. Per Acre
200	78.0	98.0	118.0
250	62.4	78.4	94.4
300	52.0	65.3	78.7
350	44.6	56.0	67.4
400	39.0	49.0	59.0
450	34.7	43.6	52.4

Application with Liquid Fertilizer

Shutdown Herbicide may be applied using liquid fertilizer solutions (either concentrate formulations or diluted with water) as the carrier. When applied as directed with adequate soil coverage, this product applied with liquid fertilizer mixtures will provide satisfactory weed control. Note that adequate soil coverage is essential to achieve acceptable levels of weed control.

Herbicide mixing, solution stability and/or compatibility problems can occur when liquid fertilizers are used as a carrier. Conduct a compatibility test before mixing to insure tank mixture compatibility and stability. The use of compatibility agents may help achieve and maintain a homogenous solution.

Mixing Instructions for Liquid Fertilizer Applications

Use the following procedure:

- Fill the clean spray tank to one half of the total volume with the fertilizer solution.
- Start the spray tank agitation system.
- Prepare a slurry of Shutdown Herbicide in a clean container with clean water using equal volumes of Shutdown Herbicide and clean water. Slowly add the Shutdown Herbicide/water slurry to the spray tank.
- Carefully rinse the slurry container, adding the rinsate to the spray tank. Better mixing of the Shutdown Herbicide/water slurry may be achieved if the slurry is added using induction systems on the sprayer fill plumbing system.
- Complete filling the spray tank to the desired level. Sufficient and continuous spray tank agitation is required at all times to maintain a homogenous spray solution. The spray system must be designed such that there is sufficient flow capacity to uniformly apply the spray mixture and maintain adequate tank agitation. Some systems may require separate pumps to simultaneously supply the spray system and the spray tank agitation system. Insure the Shutdown Herbicide slurry is thoroughly mixed before application.

For tank mixtures with other herbicide(s), conduct a compatibility test to insure product compatibility before mixing. Read and follow all the directions, precautions and restrictions of the tank mixture products prior to mixing.

Apply the Shutdown Herbicide spray mixture immediately after mixing. Do not store the sprayer overnight or for any extended period of time with the Shutdown Herbicide spray mixture remaining in the tank or any part of the spray system.

Do not premix Shutdown Herbicide spray solutions in nurse tanks.

Follow all Shutdown Herbicide label directions regarding product use rates per- acre, registered crops, application instructions, incorporation directions, special instructions and all precautions.

All individual state regulations relating to liquid fertilizer blending, storage, transportation, registration, labeling, and application are the responsibility of the individual and/or company preparing, selling or applying the Shutdown Herbicide and fertilizer mixture.

SPRAY DRIFT REDUCTION ADVISORY

To avoid drift, do not apply when wind speeds exceed 10 mph. Do not exceed spray pressures of 40 psi unless specified by the manufacturer of drift reducing spray tips and nozzles.

Spray Drift Management

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR AND THE GROWER. 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 movement from aerial applications. These requirements do not apply to forestry applications, public health uses or to applications of dry materials.

Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE Standard S-572.

Select coarse to very coarse droplet size when sulfentrazone is used as a preemergent/preplant application.

Select medium to very coarse droplet size when sulfentrazone is used postemergence with a contact burndown herbicide.

Applicators may spray only when wind speed is between 3 and 10 mph.

Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard.)

The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Observe the regulations of the State where applications are made.

Applicators must observe and abide by the requirements of the Aerial Drift Reduction Advisory.

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 for pesticide performance.

Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on Wind, Temperature and Humidity, and Temperature Inversions in subsequent sections).

Controlling Spray Droplet Size

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

Pressure - When higher flow rates are needed, use higher flow rate nozzles rather than increasing spray pressure. Do not exceed the nozzle manufacturer's recommended pressures. Lower pressure produces larger droplets in many types of nozzles.

Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

Nozzle Orientation - For aerial application, the recommended practice is to orient nozzles so that the spray is released parallel to the airstream. This orientation usually produces larger droplets as compared to other nozzle orientations. Significant nozzle deflection from 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 for both ground and aerial applications. Solid stream nozzles oriented straight back usually produce the largest droplets and the lowest drift potential in aerial applications.

Boom Length - For some aerial 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 - Aerial applications should not be made at a height greater than 10 feet above the top of the target plant canopy 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 aerial applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by the path of the aircraft upwind. Swath adjustment or offset distance should increase when conditions favor increased drift potential (higher winds, smaller droplets, etc).

Wind - Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Application should be avoided below 3 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 may potentially 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 low speed and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common during conditions of limited cloud cover and little to no wind. They often begin to form as the sun sets and may continue into the morning. The presence of a temperature inversion may be indicated by ground fog. However if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that remains in layers and moves laterally in a concentrated cloud (under low speed 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 wind is blowing away from sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops).

Off-Target Movement of Shutdown Herbicide

Drift of dilute spray mixtures containing Shutdown Herbicide must be prevented. Observation of the preceding environmental conditions, correct application equipment design, calibration and application practices will significantly diminish the risk of off-target spray drift. Shutdown Herbicide can cause significant symptomology by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contacted by Shutdown Herbicide drift mixtures. Depending on concentration of the spray solution and droplets size (effectively determining the dosage of sulfentrazone) and also depending on the inherent sensitivity of the plants involved, these spots or lesions may or may not coalesce.

These effects will usually not have lasting effects on plant growth, but will likely reduce the value of affected fruit or foliage where grade or quality is associated with appearance. In severe drift instances with particularly sensitive crops, defoliation of affected foliage could result. Failure to follow these guidelines and environmental prohibitions that then result in off-target movement or drift of Shutdown Herbicide on to unintended crops or plants, irrespective of severity, constitutes misapplication of this product. UPI accepts no responsibility or liability for potential crop effects that may result from such misapplication of Shutdown Herbicide.

BAND TREATMENT APPLICATIONS

For band treatments, apply the broadcast equivalent rate and volume per acre. To determine these:

$$\frac{\text{Band Width in Inches}}{\text{Row Width in Inches}} \times \text{Broadcast Rate per Acre} = \text{Band Rate}$$

$$\frac{\text{Band Width in Inches}}{\text{Row Width in Inches}} \times \text{Broadcast Volume per Acre} = \text{Band Volume}$$

MIXING AND LOADING INSTRUCTIONS

Apply Shutdown Herbicide alone or in tank mixtures with other herbicides for the control of additional weed species. Mixtures with some other pesticides have not been tested. Conduct appropriate compatibility tests prior to tank mixing with other pesticides. Follow all precautions and restrictions on the tank mix partner label.

Ensure that spray equipment is clean and free of existing pesticide residues before preparing spray mixtures. Follow the spray tank clean out procedures specified on the label of the product or products previously applied.

For best results:

- Fill spray tank with one half of the volume of clean water needed for the field to be treated.
- Start agitation system.
- Prepare a slurry of Shutdown Herbicide in a clean container using clean water.
- Slowly add the Shutdown Herbicide/water slurry to the spray tank.
- Carefully rinse the slurry container, adding the rinsate to the spray tank.
- Complete filling the spray tank to the desired level. Continuous spray tank agitation is required at all times to maintain a uniform spray solution. Make sure Shutdown Herbicide is thoroughly mixed before application or before adding another product to the spray tank.

Use the spray mixture immediately after mixing. Do not store the sprayer overnight or for any extended period of time with the Shutdown Herbicide spray mixture remaining in the tank or any part of the spray system.

Do not premix Shutdown Herbicide spray solutions in nurse tanks.

If Shutdown Herbicide is tank mixed with other herbicides, all additional directions, restrictions and precautions for the tank mixture herbicides must be followed.

SPRAYER EQUIPMENT CLEAN-OUT

As soon as possible after spraying Shutdown Herbicide and before using sprayer equipment for any other applications, the sprayer (including tanks, hoses, booms and nozzles) must be thoroughly cleaned to avoid potential crop effects. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with Shutdown Herbicide as required on the other product labels. Cleaning will be most effective and thorough if it is done immediately following the application.

Sprayer equipment cleanout instructions:

1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.

2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
3. Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tip) separately in an ammonia solution.
5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and guidelines.

Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application.

If small quantities of Shutdown Herbicide remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. UPI accepts no liability for any effects due to inadequately cleaned equipment.

Do not drain of flush equipment on or near desirable trees or plants.

Do not contaminate any body of water including irrigation water that may be used on other crops.

CROP ROTATIONAL RESTRICTIONS

The following table shows the minimum interval in months from the time of the last Shutdown Herbicide application until the treated area may be replanted to the crops listed. When Shutdown Herbicide is tank mixed with another herbicide, refer to the partner label for recropping instructions, following the directions that are most restrictive. Some crops have rotational intervals greater than 12 months after a Shutdown Herbicide application due to potential crop injury. A representative bioassay of the field shall be completed with the rotational crop to accurately determine the planned crop's sensitivity to sulfentrazone.

Interval	Crops
No restriction	Asparagus, Berries, Cabbage, Citrus, Cowpea (succulent) (TN only), Dry Shell Peas, Flax, Grapes, Horseradish, Lima Beans (succulent, TN only), Mint, Rhubarb, Soybeans, Strawberry, Sugarcane, Sunflower Group 20B, Tobacco, Tomato, Tree Nuts, Turf
4 months	Barley, Rye, Triticale, Wheat
10 months	Corn (field), Rice, Sorghum*
12 months	Alfalfa, Cereal Grains (Buckwheat, Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice), Sweet Potatoes All other crops not listed on this label
18 months	Corn (pop), Corn (sweet), Cotton
24 months	Canola
36 months	Sugar Beets

*Sorghum: 18-month rotation for rates above 7.8 fl. oz./acre

REPLANTING INSTRUCTIONS

If initial planting of labeled crops fails to produce a stand, only labeled crops for Shutdown Herbicide or the tank mix partner; whichever is most restrictive, may be planted. Do not retreat the field with Shutdown Herbicide or another herbicide containing sulfentrazone. Do not plant treated fields with any crop at intervals that are inconsistent with the rotational crop guidelines on this label. When replanting use minimum soil tillage.

WEEDS CONTROLLED

When applied alone or in a tank mix in accordance with label directions, this product will provide control of the following weeds. Refer to the individual crop sections for specific directions.

Common Name	Scientific Name
Amaranth,	
livid	*A. lividus*
Palmer	*A. palmeri*
Powell	*A. Powellii*
spiny	*A. spinosus*
spleen	*A. dubius*
Anoda, spurred	*Anoda cristata*
Bedstraw, catchweed	*Galium aparine*
Carpetweed	*Mollugo verticillata*
Chickweed, common	*Stellaria media*
Copperleaf, hophornbeam	*Acalypha ostryifolia*
Copperleaf, Virginia	*Acalypha virginica*
Crabgrass,	
large	*Digitaria sanguinalis*
smooth	*D. ischaemum*
southern	*D. ciliaris*
Croton, tropic	*Croton glandulosus*
Crownbeard, golden	*Verbesina encelioides*
Cupgrass, wooly	*Eriochloa villosa*
Cyperus, hedgehog	*Cyperus compressus*
Daisy, American	*Eclipta alba*
Devilsclaw	*Proboscidea louisiana*
Dock, curly	*Rumex crispus*
Eclipta	*Eclipta prostrata*
Filaree, redstem	*Erodium cicutarium*
Flixweed	*Descurainia sophia*
Galinsoga, hairy	*Galinsoga ciliata*
Goosegrass	*Eleusine indica*
Groundcherry,	
clammy (seedling)	*Physalis heterophylla*
cutleaf	*P. angulata*
Jimsonweed	*Datura stramonium*
Kochia (ALS and Triazine Resistant)	*Kochia scoparia*
Ladysthumb	*Polygonum persicaria*
Lambsquarters, common	*Chenopodium album*
Lettuce, miners	*Montia perfoliata*
Mallow, common	*Malva neglecta Wallr.*
Mayweed, Chamomile	*Anthemis cotula L.*
Milkweed, honeyvine	*Ampelamus albidus*
Morningglory,	
entireleaf	*Ipomoea hederacea integriuscula*
ivyleaf	*I. hederacea hederacea*
palmleaf	*I. wrightii*
purple	*I. turbinata*
red	*I. coccinea L.*
scarlet	*I. coccinea*
smallflower	*Jacquemontia tamnifolia*
tall	*I. purpurea*
Mustard, tumble	*Sisymbrium altissimum*

(continued)

Common Name	Scientific Name
Nightshade, black Eastern black	 *Solanum nigrum* *S. ptycanthum*
Nutsedge, purple yellow	 *Cyperus rotundus* *C. esculentus*
Orchardgrass	*Dactylis glomerata*
Panicum, fall	*Panicum dichotomiflorum*
Pigweed, redroot smooth	 *Amaranthus retroflexus* *A. hybridus*
Plantain, blackseed narrow-leaved	 *Plantago rugelii decne* *P. lanceolata*
Poorjoe	*Diodia teres*
Porophyllum	*Porophyllum ruderale*
Poinsettia, wild	*Euphorbia heterophylla*
Purslane, common	*Portulaca oleracea*
Redmaids	*Calandrinia ciliata*
Redweed	*Melochia corchorifolia*
Sedge, annual	*Carex* spp.
Senna, coffee	*Cassia occidentalis*
Shepherdspurse	*Capsella bursa-pastoris*
Sida, prickly Southern	 *Sida spinosa* *S. acuta*
Smartweed, PA (seedling)	*Polygonum pensylvanicum*
Smell melon	*Cucumis melo*
Starbur, bristly	*Acanthospermum hispidum*
Stinkgrass	*Eragrostis cilianensis*
Toadflax, yellow	*Linaria vulgaris*
Tasselflower, red	*Emilia sonchifolia*
Thistle, Russian	*Salsola kali*
Waterhemp, common tall	 *Amaranthus rudis* *A. tuberculatus*
Water primrose, winged	*Ludwigia decurrens*
Witchgrass	*Panicum capillare*

ROW CROPS

FALLOW OR POST HARVEST BURNDOWN

Apply in the fall following crop harvest or in existing fallow fields of: asparagus, cabbage, corn, dry shell peas and beans, horseradish, lima beans, mint, peanuts, potatoes, soybeans, sugarcane, sunflowers, and tobacco.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Burndown)

Soil Texture	1.5% organic matter	1.5-3% organic matter	>3% organic matter
Coarse	3.0 - 3.75 fl. oz. (0.10 - 0.12 lb. a.i.)	3.75 - 5.25 fl. oz. (0.12 - 0.17 lb. a.i.)	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)	4.5 - 7.8 fl. oz. (0.15 - 0.25 lb. a.i.)
Fine	3.75 - 5.25 fl. oz. (0.12 - 0.17 lb. a.i.)	4.5 - 6.75 fl. oz. (0.15 - 0.22 lb. a.i.)	5.25 - 7.8 fl. oz. (0.17 - 0.25 lb. a.i.)

Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories.

Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0.

Do not use on soils classified as sand, which have less than 1% organic matter.

Fall Application (CO, ID, MI, MN, MT, ND, NE, OR, SD, WA, WI, WY)

Apply in the fall to the harvested crop stubble or soil surface without incorporation to control or suppress weeds the following season. Follow the rotational crop guidelines on this label if crops will be planted the following season.

Moisture from rainfall or snow will move the product into the soil. Do not mechanically incorporate in the fall or spring as this can destroy the herbicide barrier and allow weed escapes to occur. Shutdown Herbicide may be tank mixed with other soil herbicides to control emerged weeds. If weeds are large enough to interfere with Shutdown Herbicide application reaching the soil surface, a separate burndown application will be necessary before applying this product. Combine labeled rates of burndown herbicides with Shutdown Herbicide or apply sequentially. When the weed population or canopy is dense, higher spray volumes will be required.

Spring Preemergence Application

Apply as a fallow treatment in the spring as long as weeds have not emerged and adequate moisture is present for activation. Follow the instructions under Fall Application above.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply to frozen soils or existing snow cover to prevent Shutdown Herbicide runoff from rain or snowmelt that may occur following application.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 7.8 fl. oz. (0.25 lb. a.i.) per acre of Shutdown Herbicide per twelve-month period through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

SOYBEANS

Application Methods: Apply fall, spring early preplant, preemergence, preplant incorporated in conventional tillage, conservation tillage, reduced tillage or no-tillage cropping systems by air or ground.

Using the rates in the chart below, apply Shutdown Herbicide by ground in at least 10 gallons of finished spray or by air in at least 5 gallons of finished spray. Ensure that nozzle types and arrangements provide optimum coverage while producing a minimal amount of fine droplets. Apply sufficient spray volume to achieve adequate coverage.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Soybeans)			
Soil Texture	**1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)
Medium	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)	10.1 - 11.8 fl. oz. (0.33 - 0.38 lb. a.i.)
Fine	8.0 fl. oz. (0.26 lb. a.i.)	10.1 fl. oz. (0.33 lb. a.i.)	11.8 fl. oz. (0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Preplant Incorporated and Preemergence Applications

Apply prior to planting or up to 3 days after planting. When applications after planting are delayed more than 3 days, injury may occur if seeds are germinating and severe injury may occur if applied near or after crop emergence. For preplant incorporated applications, ensure that incorporation is uniform and no deeper than 2 inches; if these directions are not followed erratic weed control and/or crop injury may occur. Shutdown Herbicide can be applied alone, in combination with other labeled soybean herbicides or followed by labeled postemergence soybean herbicides for increased control of grass and broadleaf weeds. Always follow the most restrictive label when tank mixing. When using Shutdown Herbicide in no-till or minimum till cropping systems, tank mix with an appropriate burndown herbicide for improved control of existing weeds.

Fall Applications

Apply to the stubble of harvested crops for burndown of existing vegetation and preemergence control of labeled weeds the following spring in no-till and conservation tillage production systems. Apply after harvest when the sustained temperature of the soil is 55°F and falling, at a soil depth of 4 inches. Fall applications must be made in weed control programs that include, as needed, spring applications of preplant, preemergence or postemergence herbicides for the following crop season. Areas north of Interstate 90: apply after September 30. Areas north of Interstate 70: apply after October 15. Do not apply as a fall treatment South of Interstate 70. Applications to ridge till production systems must be made after the formation of ridges or bedded.

If weeds are emerged at the time of application, combine in a tank mix with a labeled burndown herbicide. Make fall burndown treatments with a minimum of 20 gallons per acre to ensure coverage of weeds. When making burndown applications to emerged weeds, add adjuvants such as COC or MSO to the spray mixture to enhance burndown.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

When applying Shutdown Herbicide with other registered herbicides, refer to specific label information on precautions, instructions, limitations, application methods and timings, and weeds controlled.

Shutdown Herbicide is especially effective against a wide range of economic broadleaf and grass weeds. Under certain conditions, processes in soybeans can be affected in the same way that weeds are affected by sulfentrazone. These conditions include high pH (7.5 and above), cool weather, prolonged and excessive moisture, diseases, and any other condition, including poor agronomic practices, that are unfavorable to vigorous crop growth. Such effects in soybeans are often observed as stunting and discoloration. The duration of these effects are somewhat dependent on the duration of the adverse growing conditions. These effects lessen and generally diminish with the return to normal growing conditions.

Always read and observe the applicable instructions and precautions on this label. For information regarding the tolerance or susceptibility of varieties or cultivars of given crop species, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply to frozen soils or existing snow cover to prevent Shutdown Herbicide runoff from rain or snowmelt that may occur following application.
- Do not apply after crop seed germination.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre of Shutdown Herbicide per acre per twelve-month period through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

SUGARCANE

Application Methods: Apply as a broadcast or banded preemergence soil applied treatment. Refer to the Shutdown Herbicide Product Use Rate Section and to the table below for specific use information.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Sugarcane)			
Soil Texture	**1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	6.0 - 8.3 fl. oz. (0.20 - 0.27 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)
Medium	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)	10.1 - 11.8 fl. oz. (0.33 - 0.38 lb. a.i.)
Fine	8.0 fl. oz. (0.26 lb. a.i.)	10.1 fl. oz. (0.33 lb. a.i.)	11.8 fl. oz. (0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Application Instructions

Apply preemergence to newly planted or rattoon sugarcane, using the higher rate on clay soils and/or soils with organic matter content higher than 2 percent. Apply by air in a minimum of 5 gallons of spray per acre or by ground in a minimum of 15 gallons of spray per acre. Shutdown Herbicide may be applied with other herbicides registered for use in sugarcane.

Aerial Applications - Shutdown Herbicide may be applied by air in a minimum of 5 gallons of finished spray per acre.

Lay-by Applications - Apply Shutdown Herbicide as a directed spray to sugarcane at lay-by timing.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Pre-harvest Interval (PHI): 120 days.
- Do not allow spray to contact crop leaves.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre of Shutdown Herbicide per acre per twelve-month period through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

SUNFLOWERS (Subgroup 20B)

Calendula, Castor oil plant, Chinese tallowtree, Euphorbia, Evening primrose, Jojoba, Niger seed, Rose hip, Safflower, Stokes aster, Sunflower, Tallowwood, Tea oil plant, Vernonia, and cultivars, varieties and/or hybrids of these.

Application Methods: Fall, spring early preplant, preemergence, preplant incorporated.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Sunflowers)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	3.0 - 3.75 fl. oz. (0.10 - 0.12 lb. a.i.)	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)	4.5 - 6.75 fl. oz. (0.15 - 0.22 lb. a.i.)
Fine	3.75 - 5.25 fl. oz. (0.12 - 0.17 lb. a.i.)	4.5 - 6.75 fl. oz. (0.15 - 0.22 lb. a.i.)	6.0 - 7.8 fl. oz. (0.20 - 0.25 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Fall Applications (For use only in CO, KS, MN, MT, ND, NE, SD, WY)

Apply in the fall to the stubble or soil surface as a preplant treatment to control or suppress weeds prior to planting sunflowers the following spring. Moisture from rainfall or snow will move the product into the soil. Do not mechanically incorporate in the fall or spring as this can destroy the herbicide barrier and allow weed escapes to occur. Shutdown Herbicide may be tank mixed with other residual soil herbicides that are labeled for fall use on sunflowers. If weeds are emerged at the time of application, use a burndown herbicide such as glyphosate or paraquat at the full-labeled rate in combination with Shutdown Herbicide or split application as needed. Use a mid to high rate within the rate range for the appropriate soil type and organic matter.

Early Preplant and Preemergence (Spring Applications)

Apply early preplant up to 3 days after planting on the soil surface in the spring. Apply only if seedlings have not broken the soil surface and if the seed furrow is completely closed. For applications more than 3 weeks before planting, use the high rate within the appropriate rate range for the soil and organic matter type listed in the use rate chart above. If dry conditions persist following preemergent application of Shutdown Herbicide, a shallow incorporation may be needed to activate the herbicide. Shutdown Herbicide can be tank mixed with other preemergent herbicides labeled for sunflower use. If weeds are emerged at the time of Shutdown Herbicide application, use a burndown herbicide at the full-labeled rate in combination with Shutdown Herbicide or split application as needed.

Preplant Incorporated (PPI)

Using the appropriate rate from the table above, apply in the spring before planting in reduced and conventional tillage sunflowers. Shallowly incorporate Shutdown Herbicide no deeper than 2 inches, as incorporation deeper than 2 inches can result in inconsistent weed control. Shutdown Herbicide may be tank mixed with other soil-applied herbicides labeled for preplant incorporation in sunflowers subgroup 20B.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

When applying Shutdown Herbicide to coarse textured soils, allow a minimum of 7-14 days from application to planting. Best results are achieved when applications are made early preplant and more than 14 days before planting.

Undesirable crop response may be caused by the following conditions, which should be avoided: inadequate seed furrow closure; shallow planting (<1.0 inch); poor growing conditions such as excessive moisture, low temperatures, soil compaction, and diseases. In coarse-textured soils with less than 1.5% organic matter and a pH of 7.8 or higher, or highly eroded soils in areas of calcareous outcroppings adverse crop response may be observed. If applying to soils with a pH of 7.8 or higher, wait at least 7 days after application before planting.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply to frozen soils or existing snow cover to prevent Shutdown Herbicide runoff from rain or snowmelt that may occur following application.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 7.8 fl. oz. (0.25 lb. a.i.) per acre of Shutdown Herbicide per twelve-month period to sunflowers through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not incorporate deeper than 2 inches.
- Do not use on soils classified as sand, which have less than 1% organic matter.

TOBACCO (Burley, Flue-Cured and Dark)

Application Methods: Apply preemergence and preplant incorporated.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Tobacco)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)
Medium	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)	10.1 - 11.8 fl. oz. (0.33 - 0.38 lb. a.i.)
Fine	8.0 fl. oz. (0.26 lb. a.i.)	10.1 fl. oz. (0.33 lb. a.i.)	11.8 fl. oz. (0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Shutdown Herbicide may be surface applied or preplant incorporated (to a depth no greater than 2 inches) from 14 days to 12 hours before transplanting tobacco. Incorporating the product deeper than 2 inches can result in inconsistent weed control. Broadcast apply the appropriate Shutdown Herbicide rate from the table above, in a minimum of 10 gallons per acre of water, to the soil prior to transplanting.

Non-Bedded (Fields where raised beds are NOT formed prior to transplanting)

Perform all appropriate land preparation practices, fertilizer/fungicide incorporation, etc. before applying Shutdown Herbicide. Shutdown Herbicide may then be surface applied or lightly preplant incorporated from 14 days to 12 hours before transplanting.

If Shutdown Herbicide has been applied and it is then necessary to remove equipment tracks from the field after application but before transplanting, use light finishing equipment that will not disturb the soil to a depth greater than 2 inches.

If timely cultivations are not performed following a pre-transplant surface application, reduced/unacceptable weed control may occur in the drill.

Bedded (Fields where raised beds ARE formed PRIOR to transplanting)

If it is customary to drag/knock down beds before transplanting, this procedure must be performed before the Shutdown Herbicide application. Apply the product as a surface application to formed beds from 14 days to 12 hours before transplanting. When incorporating before bedding, incorporate the product thoroughly and uniformly to a depth no greater than 2 inches to avoid concentrating Shutdown Herbicide in the bed.

If replanting is necessary due to failure to produce a uniform stand, tobacco may be replanted but DO NOT re-treat field with a second application of Shutdown Herbicide, or any other herbicide containing sulfentrazone. DO NOT re-bed. Re-transplant into previously formed, treated beds. For broad spectrum and optimum grass weed control a grass herbicide application will be required.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

Many factors can adversely affect the growth of tobacco transplants. Transplants weakened by factors such as poor agronomic practices, unfavorable pH soils, diseases, cold weather, excessive moisture, drought may be more susceptible to herbicide response and diseases, particularly under poor drainage or compacted soil conditions or when the soil has been saturated for long periods of time. Temporary stunting of tobacco may occur if transplants are set too shallowly or if heavy rainfall occurs immediately following transplanting. Splashing of treated soil onto tobacco leaves may cause some localized and inconsequential necrosis. Use sound transplanting practices that insure treated soil will not wash or crust over tobacco plants. Contact your State Agricultural Extension Service Specialist for consultation as to the agronomic recommendations suited for your tobacco varieties and local conditions.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not use on shade grown tobacco.
- Do not use in tobacco seeding beds or greenhouses.
- Do not apply Shutdown Herbicide post-transplant as unacceptable injury may occur.
- Do not perform tillage practices that concentrate Shutdown Herbicide into the bed or crop injury may occur.
- Do not incorporate deeper than 2 inches.
- The maximum single application rate Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) of per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre of Shutdown Herbicide per acre per twelve-month period through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.
- Pre-harvest Interval is 14 days.

VEGETABLE CROPS

ASPARAGUS

Application Methods: Spring preemergence.

Apply Shutdown Herbicide as a broadcast treatment to crowns established for one or more years.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Asparagus)			
Soil Texture	**<1% organic matter**	**1-3% organic matter**	**>3% organic matter**
Coarse	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)
Medium	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)	10.1 - 11.8 fl. oz. (0.33 - 0.38 lb. a.i.)
Fine	8.0 fl. oz. (0.26 lb. a.i.)	10.1 fl. oz. (0.33 lb. a.i.)	11.8 fl. oz. (0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Spring Preemergence: Apply in the spring before the crop and weeds emerge, in 10 to 40 gallons of finished spray per acre. Shutdown Herbicide may be applied with other pesticides registered for use with asparagus.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Pre-Harvest Interval (PHI): 14 days.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre per twelve-month period.
- Do not make more than one application per acre per twelve-month period. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

CABBAGE (Transplanted Only)

Application Methods: Fall or spring early preplant, preemergence, and preplant incorporated.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Cabbage – Transplant Only)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	2.25 - 3.0 fl. oz. (0.07 - 0.10 lb. a.i.)	3.0 - 6.0 fl. oz. (0.10 - 0.20 lb. a.i.)	6.0 - 9.0 fl. oz. (0.20 - 0.29 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	6.0 - 9.0 fl. oz. (0.20 - 0.29 lb. a.i.)	6.0 - 11.8 fl. oz. (0.20 - 0.38 lb. a.i.)
Fine	3.0 - 6.0 fl. oz. (0.10 - 0.20 lb. a.i.)	6.0 - 9.0 fl. oz. (0.20 - 0.29 lb. a.i.)	6.0 - 11.8 fl. oz. (0.20 - 0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Early Preplant (Fall or Spring Application)

Use only in the states of CO, ID, MI, MN, MT, ND, NE, OR, SD, WA, WI, WY.

Apply in the fall or spring preceding the growing season to the harvested crop stubble or soil surface from 60 days prior to planting up to planting time. Moisture in the form of rain or snow will move and activate the product in the soil. Do not mechanically incorporate in the fall or spring after application as this may destroy the herbicide barrier and weed escapes can occur. Shutdown Herbicide may be tank mixed with other burndown herbicides to control emerged weeds in the fall or spring or with residual soil herbicides that are labeled for fall use on cabbage. Use the full, labeled rates of burndown herbicides in combination with Shutdown Herbicide, or split applications as needed. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carry over and crop injury warnings or restrictions.

Preplant Incorporated (PPI)

Apply as a preplant incorporated treatment in the spring before transplanting. Do not incorporate deeper than 2 inches. Shutdown Herbicide can be tank mixed with other burndown or soil-applied herbicides labeled for use in cabbage. Use the full, labeled rates of burndown herbicides or split applications as needed. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing including all references to potential carryover and crop injury warnings or restrictions.

Transplant Cabbage

Apply preemergence as a broadcast or banded treatment to transplanted cabbage prior to transplanting. Shutdown Herbicide may be applied as a banded treatment into the row middles within 72 hours after transplanting.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not incorporate deeper than 2 inches.
- Do not apply to frozen soils to prevent Shutdown Herbicide runoff from rain or snow that may occur following application.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre of Shutdown Herbicide per application or per twelve-month period. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

COWPEAS, Succulent (Tennessee only)

Only for use in the following counties: Dyer, Henderson, Fayette, Lauderdale, Madison, and Obion.

Application Methods: Preemergence.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Succulent Cowpeas)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	2.25 - 3.0 fl. oz. (0.07 - 0.10 lb. a.i.)	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 5.8 fl. oz. (0.12 - 0.19 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 5.8 fl. oz. (0.12 - 0.19 lb. a.i.)	4.5 - 5.8 fl. oz. (0.15 - 0.19 lb. a.i.)
Fine	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	4.5 - 5.8 fl. oz. (0.15 - 0.19 lb. a.i.)	5.25 - 5.8 fl. oz. (0.17 - 0.19 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Preemergence (Spring) Applications

Apply as a preemergence treatment at 5.8 fl. oz. (0.19 lb. a.i.) per acre with ground equipment in a minimum of 10 gallons of finished spray per acre. Use higher rates if the preemergence application is more than 3 weeks before planting.

Undesirable crop response may be caused by the following conditions, which should be avoided: inadequate seed furrow closure; shallow planting (<1.0 inch); poor growing conditions such as excessive moisture, low

temperatures, soil compaction, and diseases. In coarse-textured soils with less than 1.5% organic matter and a pH of 7.8 or higher, or highly eroded soils in areas of calcareous outcroppings adverse crop response may be observed. If applying to soils with a pH of 7.8 or higher, wait at least 7 days after application before planting.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Restrictions

- Do not incorporate.
- The maximum single application rate of Shutdown Herbicide is 5.8 fl. oz. (0.19 lb. a.i.) per acre.
- Do not apply more than 5.8 fl. oz. (0.19 lb. a.i.) total per twelve-month period from any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

DRY PEAS

Only for use on chickpeas and dry field peas.

Application Methods: Fall or spring early preplant, preemergence, and preplant incorporated.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Dry Peas)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	2.25 - 3.0 fl. oz. (0.07 - 0.10 lb. a.i.)	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)	4.5 - 6.75 fl. oz. (0.15 - 0.22 lb. a.i.)
Fine	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	5.25 - 7.8 fl. oz. (0.17 - 0.25 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Early Preplant and Fall Applications

Use only in the states of CO, ID, KS, MI, MN, MT, ND, NE, OR, SD, WA, WI, WY.

Apply in the fall as a preplant treatment to control or suppress weeds before planting the following spring. Apply to the stubble or soil surface and allow moisture from rainfall or snow to move the product into the soil. Do not mechanically incorporate in the fall or spring as this can destroy the herbicide barrier and weed escapes can occur. Shutdown Herbicide may be tank mixed with other residual soil herbicides that are labeled for fall use on dry peas. If weeds are emerged at the time of Shutdown Herbicide application, use a burndown herbicide such as glyphosate or paraquat at the full-labeled rate in combination with Shutdown Herbicide or split application as needed. Select the appropriate rate from the table above within the correct soil type and organic matter range. When applying Shutdown Herbicide in the fall, use a mid to high rate within the rate range for the appropriate soil type and organic matter.

Early Preplant and Preemergence (Spring Applications)

Apply preplant on the soil surface in the spring. Shutdown Herbicide can be applied early preplant before planting up to 3 days after planting as a preemergence soil application if seedlings have not broken the soil surface and if the seed furrow is completely closed. For preemergence applications more than 3 weeks before planting, use the high rate within the appropriate rate range for the soil and organic matter type listed in the use rate chart above. Shutdown Herbicide can be tank mixed with other preemergence herbicides labeled for dry peas use. If dry conditions persist following preemergence application of Shutdown Herbicide, a shallow incorporation may be needed to incorporate and activate the herbicide. If weeds are emerged at the time of Shutdown Herbicide application, use a burndown herbicide at the full-labeled rate in combination with Shutdown Herbicide or split application as needed.

Preplant Incorporated (PPI)

Shutdown Herbicide may be applied as a Preplant Incorporated treatment in the spring prior to planting in reduced and conventional tillage in dry pea. Do not incorporate deeper than 2 inches. Shutdown Herbicide use rates for PPI applications are similar to those used in preplant and preemergence applications. Shutdown Herbicide can be tank mixed with other burndown or soil-applied herbicides labeled for use in dry pea. Use the full, labeled rates of burndown herbicides, or split applications as needed. Observe all precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

When applying Shutdown Herbicide to coarse textured soils, allow a minimum of 7-14 days from application to planting. For best results apply early preplant and more than 14 days before planting. Extended periods of dry weather may affect the efficacy of this product.

Undesirable crop response may be caused by the following conditions, which should be avoided: inadequate seed furrow closure; shallow planting (<1.0 inch); poor growing conditions such as excessive moisture, low temperatures, soil compaction, and diseases. In coarse-textured soils with less than 1.5% organic matter and a pH of 7.8 or higher, or highly eroded soils in areas of calcareous outcroppings adverse crop response may be observed.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply after crop emerges, or if the seedling is close to the soil surface.
- Do not incorporate deeper than 2 inches.
- Do not apply to frozen soils or to existing snow cover to prevent Shutdown Herbicide runoff from rain or snow melt that may occur following application.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 7.8 fl. oz. (0.25 lb. a.i.) total per twelve-month period from any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

HORSERADISH

Application Methods: Fall or spring early preplant, preemergence, and preplant incorporated.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Horseradish)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	2.25 - 4.5 fl. oz. (0.07 - 0.15 lb. a.i.)	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	6.0 - 7.5 fl. oz. (0.20 - 0.24 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	6.0 - 7.8 fl. oz. (0.20 - 0.25 lb. a.i.)	6.0 - 7.8 fl. oz. (0.20 - 0.25 lb. a.i.)
Fine	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	6.0 - 7.8 fl. oz. (0.20 - 0.25 lb. a.i.)	6.0 - 7.8 fl. oz. (0.20 - 0.25 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Apply preplant preemerge or preplant incorporated treatment by ground in a minimum of 15 gallons of finished spray.

Early Preplant (Fall Application or Spring Application) (CO, ID, MI, MN, MT, ND, NE, OR, SD, WA, WI, WY)

Apply in the fall or spring preceding the growing. Apply Shutdown Herbicide to the harvested crop stubble or soil surface without incorporation, in the spring from 60 days before planting up to planting. Moisture in the form of rain or snow will move and activate the product into the soil. Do not mechanically incorporate in the fall or spring after application as this may destroy the herbicide barrier and weed escapes may occur. Shutdown Herbicide may be tank mixed with other burndown herbicides to control emerged weeds in the fall or spring or with residual soil herbicides that are labeled for use on horseradish. Use full, labeled rates of burndown herbicides in combination with Shutdown Herbicide, or split applications as needed. Observe all precautions, instructions, and rotational cropping guidelines of each product label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

Preplant Incorporated (PPI)

Apply as a preplant incorporated treatment in the spring before planting of horseradish. Do not incorporate deeper than 2 inches. Shutdown Herbicide can be tank mixed with other burndown or soil-applied herbicides labeled for use on horseradish. Use the full, labeled rates of burndown herbicides or split applications as needed. Observe all precautions, instructions and rotational cropping guidelines of each product's label when tank mixing including all references to potential carryover and crop injury warnings or restrictions.

Preemergence (PRE)

Apply preemergence as a broadcast or banded treatment at least 5 days before crop emergence broadcast before planting, broadcast soon after planting. Shutdown Herbicide may be applied as a banded treatment into the row middles after crop emergence. Use the higher labeled rates on clay soils and/or soils with greater than 1% organic matter. Shutdown Herbicide may be applied with other pesticides registered for use on horseradish.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply directly on the crop after the crop emerges or if the seedling sprouts are close to the soil surface.
- Do not apply to frozen soils to prevent Shutdown Herbicide runoff from rain or snow that may occur following application.
- Do not incorporate deeper than 2 inches.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 7.8 fl. oz. (0.25 lb. a.i.) per acre of Shutdown Herbicide per application or per twelve-month period. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

LIMA BEANS (Succulent) (Tennessee Only)

Application Methods: Preemergence only.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Lima Beans - Succulent)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	2.25 - 3.75 fl. oz. (0.07 - 0.12 lb. a.i.)	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 5.8 fl. oz. (0.12 - 0.19 lb. a.i.)
Medium	3.0 - 5.8 fl. oz. (0.10 - 0.19 lb. a.i.)	3.75 - 5.8 fl. oz. (0.12 - 0.19 lb. a.i.)	4.5 - 5.8 fl. oz. (0.15 - 0.19 lb. a.i.)
Fine	3.75 - 5.8 fl. oz. (0.12 - 0.19 lb. a.i.)	4.5 - 5.8 fl. oz. (0.15 - 0.19 lb. a.i.)	5.25 - 5.8 fl. oz. (0.17 - 0.19 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Apply as a preemergence treatment at 5.8 fl. oz. (0.19 lb. a.i.) per acre. Make applications with ground equipment in a minimum of 10 gallons of finished spray per acre.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

When applying Shutdown Herbicide to coarse textured soils, allow a minimum of 7-14 days from application to planting. Best results are achieved with Shutdown Herbicide when applications are made early preplant and more than 14 days before planting. Extended periods of dry weather may affect the efficacy of the treatment.

Undesirable crop response may be caused by the following conditions, which should be avoided: inadequate seed furrow closure; shallow planting (<1.0 inch); poor growing conditions such as excessive moisture, low temperatures, soil compaction, and diseases. In coarse-textured soils with less than 1.5% organic matter and a pH of 7.8 or higher, or highly eroded soils in areas of calcareous outcroppings adverse crop response may be observed.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not incorporate.
- The maximum single application rate of Shutdown Herbicide is 5.8 fl. oz. (0.19 lb. a.i.) per acre.
- Do not apply more than 5.8 fl. oz. (0.19 lb. a.i.) per twelve-month period from any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

STRAWBERRY

Application Methods: Fall or spring early preplant, preemergence, and preplant incorporated, at planting, dormancy.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Strawberry)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	4.0 fl. oz. (0.13 lb. a.i.)	4.0 fl. oz. (0.13 lb. a.i.)	4.0 - 7.8 fl. oz. (0.13 - 0.25 lb. a.i.)
Medium	4.0 - 4.5 fl. oz. (0.13 - 0.15 lb. a.i.)	4.0 - 7.8 fl. oz. (0.13 - 0.25 lb. a.i.)	4.0 - 7.8 fl. oz. (0.13 - 0.25 lb. a.i.)
Fine	4.0 - 6.0 fl. oz. (0.13 - 0.20 lb. a.i.)	4.0 - 7.8 fl. oz. (0.13 - 0.25 lb. a.i.)	4.0 - 7.8 fl. oz. (0.13 - 0.25 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Preemergence

Apply before planting and before seedlings have emerged. If Shutdown Herbicide is applied after crop emergence there may be severe injury to the crop. Apply alone or in combination with other labeled strawberry herbicides; follow with labeled postemergence strawberry herbicides for increased control of grass and broadleaf weeds. Always follow the most restrictive label when tank mixing. When using Shutdown Herbicide in no-till or minimum till cropping systems, tank mix with an appropriate burndown herbicide for improved control of existing weeds.

At-planting, dormancy application (ground application only)

Apply 4 - 7.8 fl. oz. Shutdown Herbicide (0.13 - 0.25 lb. a.i.) in a single application of no more than 7.8 fl. oz. or two split applications totaling no more than 7.8 fl. oz. At planting: apply preplant or post-transplant before weed emergence; renovation: apply to established plantings after harvest and after mowing; dormancy: apply to established plantings during dormancy.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply directly on the crop after the crop emerges or if the seedling sprouts are close to the soil surface. Do not apply to plants with newly emerged growth.
- Pre-Harvest Interval (PHI): 70 days.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 7.8 fl. oz. (0.25 lb. a.i.) per acre of Shutdown Herbicide per application or 11.8 fl. oz. (0.38 lb. a.i.) per twelve-month period through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

TOMATO (Transplanted Only)

Application Methods: Preplant only.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Tomato, Transplanted Only)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	2.25 - 3.0 fl. oz. (0.07 - 0.10 lb. a.i.)	3.0 - 6.0 fl. oz. (0.10 - 0.20 lb. a.i.)	6.0 - 9.0 fl. oz. (0.20 - 0.29 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	6.0 - 9.0 fl. oz. (0.20 - 0.29 lb. a.i.)	6.0 - 11.8 fl. oz. (0.20 - 0.38 lb. a.i.)
Fine	3.0 - 6.0 fl. oz. (0.10 - 0.20 lb. a.i.)	6.0 - 9.0 fl. oz. (0.20 - 0.29 lb. a.i.)	6.0 - 11.8 fl. oz. (0.20 - 0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Preplant Applications

Apply as a broadcast or banded treatment. Applications must be made before transplant. Shutdown Herbicide may be tank mixed with other labeled burndown or soil applied herbicides.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre of Shutdown Herbicide per application or per twelve-month period through any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

OIL CROPS

FLAX

Application Methods: Preemergence only.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Flax)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	3.0 - 3.75 fl. oz. (0.10 - 0.12 lb. a.i.)	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)
Medium	3.0 - 4.5 fl. oz. (0.10 - 0.15 lb. a.i.)	3.75 - 6.0 fl. oz. (0.12 - 0.20 lb. a.i.)	4.5 - 6.75 fl. oz. (0.15 - 0.22 lb. a.i.)
Fine	3.75 - 5.25 fl. oz. (0.12 - 0.17 lb. a.i.)	4.5 - 6.75 fl. oz. (0.15 - 0.22 lb. a.i.)	6.0 - 7.8 fl. oz. (0.20 - 0.25 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Preemergence

Apply before planting to any time after planting but before seedlings have emerged. Shutdown Herbicide applied after crop emergence may cause severe injury to the crop. Apply alone or in combination with other labeled flax herbicides; follow with a labeled postemergence flax herbicide for increased control of grass and broadleaf weeds. Always follow the most restrictive label when tank mixing. When using Shutdown Herbicide in no-till or minimum till cropping systems, tank mix with an appropriate burndown herbicide for improved control of existing weeds.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Precautions

When applying Shutdown Herbicide to coarse textured soils, allow a minimum of 7-14 days from application to planting.

Undesirable crop response may be caused by the following conditions, which should be avoided: inadequate seed furrow closure; shallow planting (<1.0 inch); poor growing conditions such as excessive moisture, low temperatures, soil compaction, and diseases. In coarse-textured soils with less than 1.5% organic matter and a pH of 7.8 or higher, or highly eroded soils in areas of calcareous outcroppings adverse crop response may be observed.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Do not apply to frozen soils or existing snow cover to prevent Shutdown Herbicide runoff from rain or snowmelt that may occur following application.
- Do not incorporate deeper than 2 inches.
- Do not apply directly on the crop after the crop emerges or if the seedling sprouts are close to the soil surface.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 11.8 ounces (0.38 lb. a.i.) per acre of Shutdown Herbicide per application or per twelve-month period from any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

MINT

Application Methods: Dormant and new planting.

Shutdown Herbicide Use Rates Per Acre For All Application Methods (Mint)			
Soil Texture	**<1.5% organic matter**	**1.5-3% organic matter**	**>3% organic matter**
Coarse	4.5 - 6.0 fl. oz. (0.15 - 0.20 lb. a.i.)	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)
Medium	6.0 - 8.0 fl. oz. (0.20 - 0.26 lb. a.i.)	8.0 - 10.1 fl. oz. (0.26 - 0.33 lb. a.i.)	10.1 - 11.8 fl. oz. (0.33 - 0.38 lb. a.i.)
Fine	8.0 fl. oz. (0.26 lb. a.i.)	10.1 fl. oz. (0.33 lb. a.i.)	11.8 fl. oz. (0.38 lb. a.i.)
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. Within ranges indicated, use higher rate when soil pH is less than 7.0 and lower rate when pH is greater than 7.0. Do not use on soils classified as sand, which have less than 1% organic matter.			

Dormant Applications

Apply to established stands of dormant mint after post harvest and/or spring land cultivation has been completed and before emergence of new mint growth. Split applications of Shutdown Herbicide may be used for preemergence sequential control of winter annuals and summer annuals. Fall applications must be applied after post harvest cultivation has been completed and spring application made after spring cultivation has been completed and before emergence of new mint growth.

Apply Shutdown Herbicide in tank-mixtures with a registered burndown herbicide to control emerged weeds at the time of application. Use of a surfactant with these tank mixtures will improve control of the emerged weeds.

Shutdown Herbicide may also be applied in tank mixtures with other products registered for use in mint.

New Planting Applications

Apply to new mint plantings preemergence to the weeds and mint. Reduce the rate of application approximately 25% of the rate indicated for established plantings for particular soil characteristics. Refer to the table above for the appropriate use rate for the soil type and organic matter content. Use the higher rates in the range for soils of pH less than 7.0.

Weeds Controlled - When applied according to directions, Shutdown Herbicide will provide control of: Amaranth, Powell; Bedstraw, catchweed; Chamomile, mayweed; Kochia (ALS and Triazine Resistant); Lambsquarters, common; Morningglory, ivyleaf; Nightshade, Eastern black; Nutsedge, yellow; Pigweed, redroot; Shepherdspurse; Toadflax, yellow; Thistle, Russian; Waterhemp (common, tall).

For information on other weeds not listed above, refer to Weeds Controlled table in this label.

Precautions

Applications made to mint that has emerged will result in severe injury to exposed plant tissue. Apply only to healthy mint fields. Applications to mint under stress from disease, pests and cultural or environmental conditions may result in crop injury.

Moisture in the form of rainfall or overhead irrigation is required after application to activate the herbicide.

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Restrictions

- Apply Shutdown Herbicide only to dormant mint or new mint plantings before new growth emerges.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre per twelve-month period from any combination of applications. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.
- Do not use on soils classified as sand, which have less than 1% organic matter.

RHUBARB

Application Methods: Postemergence.

Apply 7.8 fl. oz. (0.25 lb. a.i.) Shutdown herbicide in a minimum of 10 gallons of water per acre. Make one post emergent broadcast application just before rhubarb plants break dormancy, at 75 to 85 days before harvest.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Restrictions

- Do not use on soils classified as sand, which have less than 1% organic matter.
- The maximum single application rate of Shutdown Herbicide is 7.8 fl. oz. (0.25 lb. a.i.) per acre.
- Do not apply more than 7.8 fl. oz. (0.25 lb. a.i.) per acre per twelve-month period. Do not apply make more than one application of Shutdown Herbicide per acre per twelve-month period. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.

PERMANENT CROPS

CITRUS FRUIT, TREE NUTS, GRAPES and BERRIES

Citrus Fruits: lemon and orange

Tree Nuts: pistachio, walnut (black and English)

Grapes: wine, raisin, table and juice

Berries: blueberry, bushberry, caneberry

Application

For broadcast application, make one application uniformly to the soil on orchard and vineyard floors and berry beds and furrows, directed to the base of the trunk in trees and vines and to the base of the plant in berries. Make a single application at 8 - 11.8 fl. oz. (0.26 - 0.38 lb. a.i.) per acre. Apply when there are no weeds present or include a postemergence herbicide to eliminate emerged weeds.

For improved weed control, tank mix Shutdown Herbicide with another preemergence or postemergence burndown herbicide. Always read and follow the precautions and limitations on the labels of all tank mix partner products.

When applied as a banded treatment (50% band or less), Shutdown Herbicide may be applied twice per year. Allow at least 60 days between applications unless otherwise specified on the label. Use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacturer's spray volume and pressure recommendations for preemergence and postemergence herbicide application. The pH of the spray solution should be between 5.0 and 9.0.

For best results, apply when the soil is moist and the application will be followed by at least 1/2 inch of moisture in the form of rainfall or sprinkler irrigation within 2 weeks after application. If possible, time applications to take advantage of normal rainfall patterns and cool temperatures.

For information on weeds controlled, refer to Weeds Controlled table in this label.

Replanting in new or established orchards and vineyards: Do not replant until at least 30 days after an application of Shutdown Herbicide when replacing trees and vines. Use untreated soil when replanting trees and vines.

Precautions

Always read and observe the applicable instructions and precautions on this label. Because not all varieties or cultivars of given crop species have been evaluated for tolerance to Shutdown Herbicide, consult university or extension authorities for additional information on specific local conditions relevant to this product's use.

Apply to crops that have been established for one full growing season and are in good health. Keep the spray solution from contacting green bark of trunks of young vines and trees by wrapping with a nonporous wrap, grow tubes, or wax containers. Avoid direct or indirect spray contact with foliage and fruit.

Restrictions

- Pre-Harvest Interval (PHI) for citrus, grapes, berries, tree nuts: 3 days.
- Do not apply with airblast sprayer or by air.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre per season.
- Do not apply to powdery soils or soils that are easily moved by wind, unless irrigation can follow application immediately.
- Use ground equipment only. Do not apply with airblast sprayer or by air.

COMMERCIAL SOD FARMS

Shutdown Herbicide is a selective soil applied herbicide for the control of certain broadleaf weeds, grasses, and sedges. When applied according to directions it is taken up by weed roots and shoots and will provide control of susceptible species. Shutdown Herbicide is formulated as a flowable (suspension concentrate) containing 4.16 pounds of the active ingredient sulfentrazone per gallon.

Apply to established seeded, sodded, or sprigged turf grasses following the second mowing to control listed grass sedges and broadleaf weeds. Before application, ensure that turf grasses have developed a good root system and a uniform stand to fill in the exposed edges, and have not been weakened by stresses such as unfavorable weather conditions, diseases, chemical recent harvesting or mechanical influences.

Turf Grass Tolerance

When application is made at the rates indicated, these listed turf grasses have been found to be tolerant.

Tolerant Grasses

Grass Type	Maximum Use Rate For Single Application	
	Shutdown Herbicide Fl. Oz. Per Acre	Pounds Active Ingredient Per Acre
Cool Season Grasses		
Bentgrass, creeping	4	0.13
Fescue, fine (*Festuca rubra*) Fescue, tall (*Festuca arundinacea*) Ryegrass, perennial (*Lolium perenne*) Bluegrass, Kentucky (*Poa pratensis*) Bluegrass, rough (*Poa trivialis*)	4 - 8	0.13 - 0.26
Warm Season Grasses		
Bahiagrass (*Paspalum notatum*) Buffalograss (*Bouteloua dactyloides*) Carpetgrass (*Axonopus affinis*) Centipedegrass (*Eremochloa ophiuroides*) Kikuyugrass (*Pennisetum clandestinum*) Seashore Paspalum (*Paspalum vaginatum*) Zoysiagrass (*Zoysia japonica*) Bermudagrass (*Cynodon dactylon*) Bermudagrass hybrids (*Cyn bluegrass*) St. Augustinegrass (*Stenotaphrum secundatum*)	8 - 11.8	0.26 - 0.38

Note: Applications of Shutdown Herbicide to certain varieties of Chewings Fine Fescue or Tall Fescue may result in undesirable plant response.

Not all varieties or cultivars have been evaluated under treatment with Shutdown Herbicide. Consult university or extension weed management specialists for additional information on specific local varieties or cultivars and any other pertinent information on Shutdown Herbicide under specific local conditions.

Reseeded, Overseeded, or Sprigged Areas

Reseeding, overseeding or sprigging may be done following Shutdown Herbicide applications to turf grasses. If reseeding, overseeding or sprigging is done within 1 month after a Shutdown Herbicide treatment, the establishment of desirable grasses may be inhibited. Overseeding of bermudagrass with perennial ryegrass may be done two (2) to four (4) weeks following Shutdown Herbicide application provided slight grass plant response can be tolerated.

Best reseeding and overseeding results will occur with the use of mechanical or power seeding equipment and where proper soil cultivation, irrigation, and fertilization practices are followed.

Adjuvant Use

Use of surfactants is not recommended. Temporary discoloration of some sod species may result from use of surfactant.

Postemergence Control of Sedges

Apply 4 - 11.8 fl. oz. (0.13 - 0.38 lb. a.i.) per acre to established turf grasses for the control or suppression of sedges. Select the proper use rate from the Tolerant Grasses table.

Shutdown Herbicide will provide control or suppression of the following sedges

Common Name	Scientific Name
Kyllinga green false green	 *Kyllinga brevifolia* *Kyllinga gracillima*
Nutsedge purple yellow	 *Cyperus rotundus* *Cyperus esculentus*
Sedge cylindrical globe Surinam Texas	 *Cyperus retrorsus* *Cyperus globulosus* *Cyperus surinamensis* *Cyperus polystachyos*

Purple nutsedge: For best control of purple nutsedge, use split application listed below.

Split Application Rates for Purple Nutsedge Control

Apply 4 - 8 fl. oz. per acre as an initial application followed by a second application when evidence of actively growing nutsedge is visible, allowing 35 days between applications. Do not apply more than the maximum rate per acre based on the turf variety as listed in the Tolerant Grasses table.

Soil Application Rates for Purple Nutsedge Control

Grass Type	First Application (fl. oz. per acre)	Second Application (fl. oz. per acre)
Cool Season Grasses	2 - 4 fl. oz.	2 - 6 fl. oz.
Warm Season Grasses	4 - 6 fl. oz.	4 - 6 fl. oz.

Postemergence Control of Grassy Weeds

Shutdown Herbicide will control or suppress specific annual grasses while they are small and actively growing, when applied at 4 - 11.8 fl. oz./acre. Apply the highest rate consistent with the rate needed for turfgrass tolerance in the Tolerant Grasses table; rates lower than 11.8 fl. oz. per acre will generally control grasses for at least 60 days.

Common Name	Scientific Name
Goosegrass	*Eleusine indica*

Postemergence Control of Broadleaf Weeds

Apply at 4 - 11.8 fl. oz. per acre to control or suppress the weeds listed in the broadleaf chart below when applied to established turf grasses alone shortly after weeds have emerged. Select the correct Shutdown Herbicide use rate from the Tolerant Grasses table.

Shutdown Herbicide may be tank mixed with other herbicides, insecticides, and fungicides registered for use on turf grasses. Read and follow the label recommendations of the tank mix partner to determine turfgrass species tolerance, use rates and application requirements. Follow all label restrictions, use directions and precautionary statements.

Restrictions for Turf Grass Use

- Sod production areas must be established three months before the initial treatment of Shutdown Herbicide.
- Do not apply this product to turf grasses not listed on this label.
- Do not apply with surfactants.
- Do not graze or feed forage harvested from treated areas.
- Do not apply to landscape ornamental plants or ornamental beds.
- Do not harvest sod within three months of Shutdown Herbicide application.
- Do not apply to golf course putting greens or tees.
- The maximum single application rate of Shutdown Herbicide is 11.8 fl. oz. (0.38 lb. a.i.) per acre.
- Do not apply more than 11.8 fl. oz. (0.38 lb. a.i.) per acre of Shutdown Herbicide per twelve-month period. The twelve-month period is considered to begin upon the initial Shutdown Herbicide application.

IMPORTANT INFORMATION
READ BEFORE USING PRODUCT

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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.

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