



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

June 21, 2019

Jennifer Hughes  
Regulatory Leader  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Registration Review Label Mitigation for Cloransulam-Methyl  
Product Name: FirstRate  
EPA Registration Number: 62719-275  
Application Date: October 8, 2018  
Decision Number: 551703

Dear Jennifer Hughes:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Cloransulam-Methyl Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Darius Stanton by phone at 703-347-0433, or via email at [Stanton.Darius@epa.gov](mailto:Stanton.Darius@epa.gov).

Page 2 of 2  
EPA Reg. No. 62719-275  
Decision No. 551703

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington", with a stylized flourish at the end.

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure

**[Split Label A: Bottled material]**

(Base label):

CLORANSULAM-METHYL	GROUP	2	HERBICIDE
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**FirstRate®****HERBICIDE****For broadleaf weed control in soybeans.**

Active Ingredient:

cloransulam-methyl: N-(2-carbomethoxy-  
6-chlorophenyl)-5-ethoxy-7-  
fluoro(1,2,4)triazolo-[1,5-c]pyrimidine-  
2-sulfonamide ..... 84%

Other Ingredients ..... 16%

Total ..... 100%

Contains 0.84 lb of active ingredient per pound of product.

<b>ACCEPTED</b>
Jun 21, 2019
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 62719-275

**Keep Out of Reach of Children****CAUTION****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 or clothing:** 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

**Precautionary Statements****Hazards to Humans and Domestic Animals****CAUTION**

**Causes Eye Irritation • Harmful If Absorbed Through Skin • Avoid contact with skin, eyes or clothing.**

**Personal Protective Equipment (PPE)****Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as butyl rubber ≥14 mils, or natural rubber ≥14 mils, or neoprene rubber ≥14 mils or nitrile rubber ≥14 mils
- Shoes plus socks

See Engineering Controls for additional requirements.

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.

### Engineering Controls

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

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)].

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

**Non-Target Organism Advisory:** This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

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

This chemical can contaminate surface water through spray drift.

**Surface water advisory:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching aquatic sediment via runoff for several weeks after application. A level well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of Cloransulam-methyl from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

### (Storage and Disposal for rigid containers 5 gal or less)

#### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrigid containers any size)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for refillable rigid containers larger than 5 gal)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Refillable container. 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 from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: 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. Turn the container over onto its other 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. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refer to label booklet for Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-275

EPA Est. \_\_\_\_\_

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

**Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET WEIGHT** \_\_\_\_

(Label booklet cover):

CLOANSULAM-METHYL	GROUP	2	HERBICIDE
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**FirstRate®****HERBICIDE****For broadleaf weed control in soybeans.**

Active Ingredient:

cloransulam-methyl: N-(2-carbomethoxy-  
6-chlorophenyl)-5-ethoxy-7-  
fluoro(1,2,4)triazolo-[1,5-c]pyrimidine-  
2-sulfonamide ..... 84%

Other Ingredients ..... 16%

Total ..... 100%

Contains 0.84 lb of active ingredient per pound of product.

**Keep Out of Reach of Children****CAUTION****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.

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**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to inside of label booklet for additional precautionary information including Directions for Use.**

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**NET WEIGHT \_\_\_\_**



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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

## CAUTION

**Causes Eye Irritation • Harmful If Absorbed Through Skin • Avoid contact with skin, eyes or clothing.**

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as butyl rubber  $\geq 14$  mils, or natural rubber  $\geq 14$  mils, or neoprene rubber  $\geq 14$  mils or nitrile rubber  $\geq 14$  mils
- Shoes plus socks

See Engineering Controls for additional requirements.

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.

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

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### Directions for Use

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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

### Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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

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

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

### Nonrefillable rigid containers 5 gallons or less:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing

nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Nonrefillable nonrigid containers:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refillable rigid containers larger than 5 gal:**

**Container Handling:** Refillable container. 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 from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Nonrefillable rigid containers larger than 5 gal:**

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## Product Information

FirstRate® herbicide controls many economically important broadleaf weeds in soybeans. FirstRate may be applied preplant incorporated, preplant surface, preemergence or postemergence.

## Use Precautions

- Read and carefully follow all applicable directions, precautions and restrictions on labeling for other products used in combination with FirstRate.
- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage. To minimize spray drift, apply FirstRate in a spray volume of 3 or more gallons per acre. Increase spray volume to 5 or more gallons per acre when there is a heavy weed pressure or dense crop foliage.

**Iron Chlorosis:** There are isolated geographic areas where soil-induced iron chlorosis routinely occurs. In these areas, the severity of iron chlorosis symptoms or other nutrient induced crop injury may increase when FirstRate is applied.

### Crop Rotation Intervals

When tank mixing with other herbicides, follow crop rotation guidelines on the label of each product used. The following rotational crops may be planted at the indicated interval following application of FirstRate. Unusual climatic or environmental conditions that may increase the likelihood of rotational crop sensitivity (i.e., corn, sugar beets, and sunflowers) include lower than normal rainfall and/or soil temperatures in the fall and spring; and/or soil pH extremes.

Numbers in parentheses (-) refer to Specific Crop Rotation Information.

Crop	Rotation Interval (1) (Months)
soybeans	0
wheat	4
alfalfa, field corn, popcorn, seed corn (2), cotton, peanuts, rice, sorghum, dry beans, lima beans, oats, peas, snap beans	9
barley	12
potatoes, sweet corn	18
tobacco (3) and other crops not listed	18 (3)
sugar beets, sunflowers (4)	30 (4)

### Specific Crop Rotation Information:

1. Minimum number of months that must pass before planting other crops after application of FirstRate at up to 0.75 oz per acre soil applied and/or 0.3 oz per acre postemergence.
2. **Hybrid seed production:** Corn inbred lines grown for hybrid seed production may be injured the growing season following an application of FirstRate. Inbred lines should be thoroughly tested for crop tolerance before rotating to large acreage. While growers are not prohibited from rotating to seed corn in the growing season following an application of FirstRate, **Dow AgroSciences will not accept responsibility for any crop injury on field corn grown for seed following an application of FirstRate.**
3. **Transplanted tobacco may be planted 10 months after application of 0.3 oz per acre of FirstRate.**
4. Rotation to sugar beets and sunflowers require a 30-month rotation interval and a successful field bioassay.

**Field Bioassay Instructions:** Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field previously treated with FirstRate. Plant the strips perpendicular to the direction in which FirstRate was applied. Locate the strips so that different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury, stand reduction, or yield reduction, the field can be seeded with the test crop. If visible injury or stand reduction occurs, do not seed the test crop and repeat the bioassay the next growing season.

### Use Restrictions

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

Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers 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 washwater, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above 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.

- Do not make more than one soil application during a single year.
- Do not exceed 0.039 lb active ingredient cloransulam-methyl (0.75 oz of FirstRate) per acre as a soil application (preplant or preemergence).
- Do not apply more than 0.03 lb active ingredient cloransulam-methyl (0.6 oz of FirstRate) per acre as a postemergence application during a single year (either as a single application or as a total of sequential postemergence applications).
- The maximum cumulative application rate from preplant, preemergence, and/or postemergence use of cloransulam-methyl must not exceed 0.055 lb active ingredient (1.05 oz of FirstRate) per acre per year.
- **Preharvest Interval: Forage or Hay:** Do not apply within 25 days before harvest. **Soybeans:** Do not apply within 70 days before harvest.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- Do not use flood irrigation to apply or incorporate this product.
- 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.
- Aerial applicators must be in enclosed cockpits.

**Aerial Application:** FirstRate herbicide may be aerially applied for preemergence or postemergence control of broadleaf weeds in soybeans. **Aerial application of this product is prohibited in New York State.**

**Avoid all direct or indirect contact with non-target plants.** Do not apply near desirable vegetation and allow adequate distance between target area and desirable plants to minimize exposure.

**Do not apply under conditions that favor runoff or wind erosion of soil containing FirstRate to non-target areas. To prevent off-site movement due to runoff or wind erosion:**

- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, allow the surface soil to first be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
- Do not apply to soils when saturated with water.
- Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

## SPRAY DRIFT ADVISORIES

The applicator is responsible for avoiding off-site spray drift. Be aware of nearby non-target sites and environmental conditions.

**Importance of Droplet Size:** An effective way to reduce spray drift is to apply large droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

## Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles – Follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

**Boom Height – Ground Boom** – Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

**Release Height – Aircraft** – Higher release heights increase the potential for spray drift.

**Shielded Sprayers** – Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**Temperature and Humidity** – When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**Temperature Inversions** – Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**Wind** - Drift potential generally increases with wind speed. **Avoid applications during gusty wind conditions.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift. Spray when conditions are calm or wind speed is low. Do not spray when wind is gusting or steady wind speed is greater than 10 mph.

#### **Weed Resistance Management**

FirstRate, which contains the active ingredient Cloransulam-methyl is a group 2 herbicide based on the mode of action classification system of the Weed Science Society of America. Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is a best practice. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistance.

The continued effectiveness of this product depends on the successful implementation of a weed resistance management program.

To aid in the prevention of developing weeds resistant to this product, users should:

- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Start with a clean field, using either a burndown herbicide application or tillage.

- If using post-emergence herbicides or tank mixes, control weeds early when they are relatively small.
- Apply full rates of FirstRate for the most difficult to control weed in the field at the specified time to minimize weed escapes.
- Scout fields after application to detect weed escapes or shifts in control of weed species.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Report any incidence of non-performance of this product against a particular weed to your local company representative, local retailer, or county extension agent.
- Contact your local company representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective modes of action for each target weed.
- If resistance is suspected, treat weed escapes with an herbicide having a mode of action other than Group 2 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Suspected herbicide-resistant weeds may be identified by these indicators:
  - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
  - A spreading patch of non-controlled plants of a particular weed species; and
  - Surviving plants mixed with controlled individuals of the same species.

Additionally, users should follow as many of the following herbicide resistance management practices as is practical:

- Use a broad spectrum herbicide with other mode of action as a foundation in a weed control program, if appropriate.
- Utilize sequential applications of herbicides with alternative modes of action.
- Rotate the use of this product with non-Group 2 herbicides.
- Avoid making more than two sequential applications of FirstRate and any other Group 2 herbicides within a single growing season unless mixed with an herbicide with a different mode of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields to reduce weed seed production.

## Mixing Directions

### Mixing FirstRate Alone:

1. Fill the tank with 1/2 of the total amount of water or liquid fertilizer required for the load
2. Start agitation.
3. Add the required amount of FirstRate for the acreage being treated by opening the bottle(s), measuring the required amount, and pouring the measured amount directly into the spray tank while agitating the mixture and allowing time for the herbicide to disperse.
4. Continue agitation while filling the spray tank to the required volume.
5. To ensure a uniform spray mixture, continuous agitation is required during application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply within 24 hours of mixing. Weed control with FirstRate, which has been mixed and allowed to stand for more than 24 hours, may be reduced.

**FirstRate Applied Alone with Liquid Fertilizer** In order to add FirstRate to a liquid fertilizer carrier, FirstRate must be premixed in a slurry of product and clean water. Use a minimum of one gallon of water for each container of FirstRate. Stir until completely dissolved. With agitator operating, add slurry to the

spray tank through a 20 to 35 mesh screen. Rinse container used for premixing and add rinsate to the spray tank. Complete the filling of the spray tank with fertilizer. Maintain agitation during filling, mixing and application. Use the spray mixture of FirstRate immediately after mixing. Do not store mixture.

**Pre-Mixing (Other Products):** If pre-mixing is required for other dry or flowable products applied in tank mix combination with FirstRate, follow directions for pre-mixing of such products provided in their respective product labels.

#### **FirstRate - Tank Mix**

If a broader spectrum of weed control is needed, FirstRate may be tank mixed with labeled rates of other herbicides provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### **Tank Mixing Precautions:**

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates for respective products or maximum allowable application rates for any active ingredient in the tank mix.
- Do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been adequately cleaned. (See Equipment Clean-Out Procedures.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of FirstRate and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not a compatible tank mix combination.

Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

#### **Mixing Order for Tank Mixes:**

1. Fill the spray tank to 1/4 to 1/3 of the total spray volume required with water or liquid fertilizer.
2. Start agitation.
3. Add the required amount of FirstRate for the acreage being treated directly to the spray tank while agitating and allow time to disperse. If liquid fertilizer is being used as the spray carrier rather than water, pre-mix FirstRate as described above before adding to the spray tank.
4. After adding FirstRate, add different formulation types in the following order: (1) other formulation(s) packaged in water soluble packets; (2) any compatibility agent, if required; (3) dry flowables; (4) wettable powders; (5) aqueous suspensions, flowables and liquids. Maintain agitation and fill spray tank to 3/4 of total spray volume and add: (6) emulsifiable concentrates; (7) solutions; and (8) adjuvants. Allow time for complete mixing and dispersion after each addition.
5. Finish filling the spray tank. Maintain continuous agitation during mixing and throughout application.

If application or agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

#### **Clean-Out Procedures for Spray Equipment**



1. Drain any remaining spray mixture from the application equipment.
2. Hose down the interior surfaces of the tank while filling the tank 1/2 full of water.
3. Add household ammonia at a rate of 1 gallon per 100 gallons of water. Recirculate for 5 minutes and spray out part of this mixture for 5 minutes through the boom. Drain tank.
4. Remove all spray nozzles and screens and clean separately.
5. If spray equipment will be used for pesticide application to crops sensitive to FirstRate, repeat steps 1 through 3. Thoroughly clean exterior surfaces of spray equipment.

**Note:** Rinsate must be disposed of on site according to label use directions or at an approved waste disposal facility.

#### **Application in Liquid Fertilizer for Tank Mixes**

Always pre-mix or slurry FirstRate with water prior to adding to liquid fertilizer in spray tanks. To slurry or pre-mix FirstRate, use a minimum of one gallon of water for each container of FirstRate. Stir until completely dissolved. Make sure FirstRate is completely and uniformly dispersed in water and then add to the spray tank or induction system through a 20 to 35 mesh screen. Add any rinsate to the spray mixture.

When necessary, use a compatibility agent to ensure that FirstRate mixes properly. The use of an appropriate compatibility agent is especially important when tank mixing FirstRate and other dry flowables, wettable powders, flowables, liquids, aqueous suspensions, or solutions with emulsifiable concentrates in liquid fertilizer. If the emulsifiable concentrate formulation rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse. A jar test, utilizing relative proportions of the tank mix ingredients, is recommended prior to mixing with a large quantity of liquid fertilizer.

**Note:** Refer to Clean-Out Procedures for Spray Equipment for directions on cleaning equipment prior to use in crops other than soybeans.

#### **Application with Dry Bulk Fertilizer**

Dry bulk fertilizer may be impregnated or coated with FirstRate. Application of dry bulk fertilizer impregnated with FirstRate provides weed control equal to the same rates of FirstRate applied in liquid carriers. Follow label directions for FirstRate regarding rates per acre, crops, special instructions, cautions and special precautions. Apply 200 to 700 lb of the fertilizer/herbicide mixture per acre. Apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control.

Most dry fertilizers can be used for impregnation with FirstRate. When coated ammonium nitrate and/or limestone are used alone, do not impregnate with FirstRate. These materials will not absorb the herbicide. Blends containing a mixture of ammonium nitrate and/or limestone as part of the fertilizer mixture can be impregnated.

Compliance with all federal and state regulations relating to blending pesticide mixtures with dry bulk fertilizer, registration, labeling and application are the responsibility of the individual and/or company offering the fertilizer and chemical mixture for sale.

**Impregnation:** FirstRate must be pre-mixed with water to form a slurry prior to impregnation of dry bulk fertilizer. For best results, use a minimum of one gallon of water for each container of FirstRate. Make sure FirstRate is completely and uniformly dispersed in water. Then add sufficient water to adjust the total volume of the mixture to deliver a spray volume of at least 6 pints per ton of fertilizer. Place nozzles used to spray FirstRate onto the fertilizer to provide uniform spray coverage. Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender.

Calculate amounts of FirstRate by the following formula:

$$\frac{2000}{\text{lb/acre of fertilizer}} \times \text{lb/acre of FirstRate} = \text{Pounds of product per ton of fertilizer}$$

**Note:** Thoroughly clean dry fertilizer blending and application equipment prior to use with other herbicides. It is important to clean the blender, herbicide spray tank, and spraying apparatus thoroughly. Rinse the sides of the blender and the herbicide tank with water. Clean spraying apparatus prior to preparing fertilizer/herbicide mixtures for crops other than soybeans (see Clean-Out Procedures for Spray Equipment). Then, impregnate the rinsate onto a load of dry fertilizer intended for an approved crop. Use a maximum rate of 1 gallon of rinsate per ton of fertilizer. Follow with one to two loads of unimpregnated fertilizer in the blender before switching herbicides. The fertilizer application equipment must be empty, clean, and dry before applying any material to crops other than soybeans.

### Soybeans

Apply with ground equipment using a standard low pressure (20 to 40 psi) herbicide sprayer equipped with nozzles that provide uniform coverage. For best results, apply in a spray volume of 10 gallons or more per acre for either soil or postemergence applications. Use sufficient spray volume to provide uniform coverage. Maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture. Screens in spray lines and nozzles should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

### Broadleaf Weeds Controlled by Soil Applications

The following weeds are controlled by FirstRate when applied to the soil surface at specified rates either as a preplant incorporated, preplant surface, or preemergence application (FirstRate does not control known ALS resistant biotypes of these weeds):

- |                               |                                |
|-------------------------------|--------------------------------|
| cocklebur, common             | ragweed, common                |
| horseweed, (marestail)        | ragweed, giant                 |
| jimsonweed                    | smartweed, Pennsylvania        |
| lambsquarters, common         | sunflower, common              |
| mallow, venice                | velvetleaf                     |
| morningglory (annual species) | waterhemp species <sup>1</sup> |
| Palmer amaranth <sup>1</sup>  |                                |
| pigweed (annual species)      |                                |

<sup>1</sup>FirstRate provides partial control of Palmer amaranth and waterhemp. To improve control of these weeds, apply FirstRate in tank mix combination with the appropriate labeled rate of a soil applied Group 15 herbicide such as Dual II Magnum®, Warrant®, or Zidua® or Group 15 herbicide product such as Treflan® or Prowl H20®.

### Application Rates and Methods for Soil Applications (Preplant Incorporated, Preplant Surface Applied, Burndown and Preemergence)

**Note:** Numbers in parentheses (-) refer to footnotes following table. See instructions for Special Situations below.

Area of Use	Soil Organic Matter	FirstRate (oz/acre)
DE, CT, IA, KS, MD, ME, MI, MN, MO (excluding the bootheel), ND, NE, NH, OH, OK, SD, VT, WI, PA, NY, and areas north of Interstate 64 in the states of IL, IN KY, WV, VA.	3% or less	0.6
	greater than 3% (1)	0.75

all areas to the south of the above mentioned geographic area.	all organic matter levels	0.75
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1. Soil applications of FirstRate at 0.75 oz per acre on soils with greater than 5% organic matter may result in reduced weed control. Under these conditions, postemergence applications of FirstRate or other herbicides may be required to control specific weeds.

### Special Situations:

**Note:** Numbers in parentheses (-) refer to footnotes following table.

Situations	Soil Organic Matter	FirstRate (oz/acre)
moderate to heavy giant ragweed or morningglory infestations	3% or less	0.6 - 0.75
applications made 15 to 30 days prior to planting	greater than 3% (1)	0.75

1. Soil applications of FirstRate at 0.75 oz per acre on soils with greater than 5% organic matter may result in reduced weed control. Under these conditions, postemergence applications of FirstRate or other herbicides may be required to control specific weeds.

### Preplant Incorporated Application

Apply FirstRate alone or in tank mix combination with other herbicides registered for preplant incorporated application to soybeans. For best results, the seedbed should be relatively free of clods. Incorporate the herbicide(s) into the top 1 to 3 inches of the final seedbed using equipment that provides thorough soil mixing. Do not apply FirstRate earlier than 4 weeks before planting. For best results, apply FirstRate within 2 weeks of planting. When FirstRate is applied in tank mix combination with other herbicide(s), follow the incorporation directions for the tank mix partner(s). Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture.

### Preplant Surface Application

Apply FirstRate alone or in tank mix combination with other herbicides registered for preplant soil surface application to soybeans. For best results, the seedbed should be relatively free of clods. For best results, apply FirstRate within 2 weeks of planting. Soil surface applications are not effective until rainfall of at least 0.5 inch has moved FirstRate into surface soil where weed germination occurs. If rainfall is not anticipated, for best results, shallow incorporate (i.e., 2 inches deep) prior to planting to place FirstRate in contact with germinating weeds. FirstRate may provide suppression of annual grasses at rates greater than 0.3 oz per acre if there is sufficient rainfall to move the herbicide into the soil prior to weed germination. Timely subsequent rainfall is required for optimal herbicidal activity. If applied in tank mix combination, follow use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. **Note:** Reduced weed control in the planted row may occur if untreated soil is exposed during planting operations.

### Burndown Application

When used as a burndown treatment, FirstRate alone will provide foliar activity on those broadleaf weeds listed in the Postemergence Application section of this label. In addition, FirstRate will provide residual control of broadleaf weeds listed under the Application Rates and Methods for Soil Applications section. FirstRate may provide suppression of annual grasses at rates greater than 0.3 oz per acre if there is sufficient rainfall to move the herbicide into the soil prior to weed germination. Timely subsequent rainfall is required for optimal herbicidal activity. **FirstRate does not control or suppress emerged annual grasses.** Include adjuvants for foliar burndown applications plus a liquid nitrogen fertilizer (see Adjuvant Systems for Postemergence Application section). To broaden the spectrum of weeds controlled, FirstRate may be tank mixed with other herbicides such as glyphosate, glufosinate, paraquat, 2,4-D, etc. If tank mixing, a jar test for compatibility is always recommended.

**Foundation Soil Herbicide in Glyphosate-Tolerant Soybeans:** FirstRate can be used as a foundation soil herbicide in a planned sequential program with products such as Durango<sup>®</sup> DMA herbicide (or any glyphosate product labeled for use in glyphosate-tolerant soybeans). Used as a foundation soil herbicide, FirstRate will control or suppress key broadleaf weeds listed in the soil applied section of this label, allowing for optimal timing of a glyphosate in-crop treatment.

### **Preemergence Application**

Apply after planting but prior to crop or weed emergence. For optimum results, apply FirstRate within two days after planting. FirstRate may be applied alone or in tank mix combination with other herbicides registered for preemergence application to soybeans. When applied in tank mix combination, follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture.

### **Postemergence Application**

FirstRate may be applied any time prior to the R2 (full flower) growth stage of soybeans. Application prior to full emergence of the first soybean trifoliolate leaf may cause temporary yellowing or chlorosis of soybeans. Tank mix partners may cause other effects regardless of the application timing. Follow application timing restrictions of tank mix partners. For FirstRate, optimum application timing for control of labeled weeds is provided in the table below.

Postemergence applications of FirstRate may provide residual soil activity on broadleaf weeds, excluding sicklepod (see soil and postemergence weed lists). Length and effectiveness of residual activity from postemergence applications will vary and is dependent upon weed species, application rate, rainfall following application (minimum of 0.5 inches of rainfall within a week of application), density of the weed and crop canopy at application, and length of subsequent weed germination events.

**Environmental Conditions and Herbicidal Activity of FirstRate:** Factors in effective weed control with FirstRate include application rate, weed size, temperature, and soil moisture prior to and following application, and use of adjuvants. Best weed control results are obtained when FirstRate is applied to small, actively growing weeds, when daytime temperatures are warm (70°F or more), and optimal soil moisture to support active weed growth prior to and following application. If weeds are under drought stress, consider delaying application until more favorable conditions resume. Application when weeds are under temperature or moisture stress, or larger than the recommended size, may result in reduced control.

- FirstRate is rainfast in 2 hours.
- Applications made immediately prior to, during, or immediately following periods of heat and/or drought stress, large day/night temperature fluctuations or where daytime temperatures do not exceed 60°F may decrease weed control.
- Poor weed control may result from applications made to plants under stress from: abnormally hot or cold weather; environmental conditions such as drought, water-saturated soils, hail damage, or frost; or prior herbicide applications

**Application Rate for Postemergence Applications:** Apply as a broadcast spray at a rate of 0.3 oz per acre prior to the maximum leaf stage and weed height for listed weeds using one of the recommended adjuvant systems. A second application of up to 0.3 oz of FirstRate per acre may be applied to later germinating weeds. For especially heavy weed infestations or added residual control, FirstRate may be used as a single application at a rate of up to 0.6 oz per acre. Do not apply more than a total of 0.6 oz per acre per year as a postemergence application. FirstRate may be applied alone or in tank mix combination with other labeled herbicides registered for postemergence application to soybeans. Refer to labels for additional instructions and recommendations pertaining to tank mixes.

<b>FirstRate (oz/acre)</b>
0.3
0.6

**Broadleaf Weeds Controlled and Optimum Stage of Growth:** The following weeds are controlled by FirstRate when applied postemergence at the indicated weed stage of growth. FirstRate does not control known ALS resistant biotypes of these weeds. To improve coverage and product performance in heavy weed infestations, use a minimum of 15 gallons per acre spray volume.

**Note:** Numbers in parentheses (-) refer to Weed-Specific Use Information following table.

<b>Target Weeds</b>	<b>Leaf Number at Application (Optimum to Maximum)</b>	<b>Maximum Height (inches)</b>
<b>Controlled</b>		
cocklebur, common	4 - 8	10
dayflower, Asiatic	2 - 6	NA
dayflower, marsh	2 - 6	NA
dayflower, spreading	2 - 6	NA
horseweed (marestalk)	---	6
jimsonweed	2 - 4	4
mallow, venice	2 - 4	<3
marshelder	4 - 6	10
morningglory (annual species) (1)	2 - 4	4
mustard, wild (2)	2 - 4	2
ragweed, common	4 - 6	8
ragweed, giant	4 - 6	10
sicklepod (3)	cotyledon - 1	<2
smartweed, Pennsylvania	2 - 4	6
sunflower, common	4 - 8	12
velvetleaf (4)	2 - 4	6
<b>Suppressed</b>		
burcucumber	2 - 4	6
Canada thistle	---	10
hophornbeam copperleaf	1 - 2	4
nutsedge, yellow	---	8

#### **Weed-Specific Use Information**

1. **Morningglory:** Spray before morningglory plants begin to send out runners.
2. **Wild mustard:** For optimum control, apply before wild mustard plants exceed 4 inches in diameter.
3. **Sicklepod:** Applications made to sicklepod plants later than the 1-leaf stage of growth will likely result in reduced control. A repeat application of FirstRate may be necessary 7 to 10 days after the first (do not apply more than a total of 0.6 oz per acre per year as a postemergence application). Application of other postemergence herbicides may be necessary to control later germinating sicklepod plants.
4. **Velvetleaf:** When velvetleaf is a primary target weed, always include urea ammonium nitrate (UAN) or ammonium sulfate (AMS) with nonionic surfactant, crop oil concentrate or methylated seed oil as the adjuvant system.

**Adjuvant Systems for Postemergence Application:** Use in combination with one of the following adjuvant systems approved for application to growing crops:

- Nonionic surfactant at 1 to 2 pints per 100 gallons of spray mixture (0.125 to 0.25% v/v) plus urea ammonium nitrate at 2.5 gallons per 100 gallons (2.5% v/v)<sup>1</sup>. Nonionic surfactant may be used alone at 2 pints per 100 gallons of spray mixture 0.25% v/v when required in certain tank mixes.
- Crop oil concentrate or methylated seed oil at 1.2 gallons per 100 gallons of spray mixture (1.2% v/v).

- Crop oil concentrate or methylated seed oil at 1.2 gallons per 100 gallons of spray mixture (1.2% v/v) plus urea ammonium nitrate solution at 2.5 gallons per 100 gallons (2.5% v/v).

<sup>1</sup>Dry ammonium sulfate may be used at a rate of 2 lb per acre (8.5 to 17 lb per 100 gallons of spray mixture) as a substitute for urea ammonium nitrate.

**Note:** Use of crop oil concentrate or methylated seed oil plus urea ammonium nitrate is preferred when weeds are under drought stress, but may increase crop injury.

Refer to soil and post application instructions section for mixing instructions and mixing order for tank mix products and adjuvants.

**Tank Mix Options:** For weeds not listed for postemergence control with FirstRate, the herbicides listed below may be used per label instructions. When applied in tank mix combination with other herbicides, follow all use instructions for all products, including application rates, precautions and restrictions for each product used in the tank mixture, including use of adjuvants.

**Note:** Numbers in parentheses (-) refer to footnotes following table.

Broadleaf Herbicides	Grass Herbicides
Basagran	Assure II (3)
Cadet	Durango DMA, glyphosate (1)
Classic	Fusion (2)
Cobra	Poast Plus
Durango DMA glyphosate (1)	Roundup Original MAX (1), Roundup
Flexstar	WeatherMAX (1)
Glufosinate (2)	Select Max (3)
Harmony GT	
Phoenix	
Pursuit	
Raptor	
Reflex	
Resource	
Synchrony STS	
Ultra Blazer	

1. Tank mixtures of FirstRate plus glyphosate products may only be used postemergence in-crop over glyphosate-tolerant soybeans (refer to paragraph below for specific use instructions for tank mixing FirstRate with these products).
2. Tank mixtures of FirstRate plus glufosinate may only be used postemergence in-crop over glufosinate-tolerant soybeans (refer to paragraph on tolerant soybeans for specific use instructions for tank mixing FirstRate with these products).
3. Under certain conditions, tank mixing FirstRate with these postemergence grass herbicides may reduce their activity on some grass species. However, broadleaf weed control with FirstRate will not be affected. This grass antagonism may be overcome by using full labeled rates of these grass herbicides in tank mixtures with FirstRate. Making separate applications of FirstRate and Assure II or Fusion is the most effective method for reducing the potential for antagonism. Do not tank mix Assure II with FirstRate when the target weed is woolly cupgrass or fall panicum, as reduced control may occur.

**Other Postemergence Herbicide Applications:** Apply other postemergence herbicides at least 7 days before or 7 days after an application of FirstRate.

**Precautions for Postemergence Applications of FirstRate with Foliar Insecticides:** FirstRate may be tank mixed with the foliar applied Lorsban®-4E insecticide or synthetic pyrethroid products. The addition of other herbicides with FirstRate in combination with an insecticide may increase the risk for crop injury in the form of stunting or leaf burn.

**FirstRate + Glyphosate and FirstRate + Glufosinate Tank Mix in Glyphosate and Glufosinate-Tolerant Soybeans:** FirstRate at 0.3-0.6 oz per acre may be tank mixed with Durango DMA, or other glyphosate herbicides labeled for use in glyphosate-tolerant soybeans and glufosinate for use in glufosinate-tolerant soybeans to enhance control of key broadleaf weeds such as giant ragweed, marestail, morningglory, velvetleaf, and others listed under the Postemergence Application section of this label. Residual control from FirstRate may also reduce the potential need for subsequent postemergence applications.

As a general rule, for best results when tank mixing FirstRate with glyphosate and glufosinate herbicides, add ammonium sulfate (AMS) at 8.5 to 17 lb per 100 gallons of spray mixture. The order of mixing is: (1) water; (2) FirstRate; (3) AMS; and (4) glyphosate product. **No additional** non-ionic surfactant is required when tank mixing with surfactant-loaded glyphosate herbicide such as Durango DMA.

**Note:** If a non-surfactant-loaded glyphosate herbicide is tank mixed with FirstRate, a non-ionic surfactant is required. Add no less than 1 to 2 pints per 100 gallons of spray mixture (0.125 to 0.25% v/v). Add the non-ionic surfactant before completing the filling process.

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### Terms and Conditions of Use

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If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent permitted by law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

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### Warranty Disclaimer

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Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT PERMITTED BY LAW, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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### Inherent Risks of Use

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

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### Limitation of Remedies

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To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow

AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or Limitation of Remedies in any manner.

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EPA accepted \_\_/\_\_/\_\_



**[Split Label B: Water soluble packets]**

(Base label):

CLORANSULAM-METHYL	GROUP	2	HERBICIDE
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**FirstRate®****HERBICIDE****For broadleaf weed control in soybeans.**

## Active Ingredient:

cloransulam-methyl: N-(2-carbomethoxy-  
6-chlorophenyl)-5-ethoxy-7-  
fluoro(1,2,4)triazolo-[1,5-c]pyrimidine-  
2-sulfonamide ..... 84%

Other Ingredients ..... 16%

Total ..... 100%

Contains 0.84 lb of active ingredient per pound of product.

**Keep Out of Reach of Children****CAUTION****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 or clothing:** 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

**Precautionary Statements****Hazards to Humans and Domestic Animals****CAUTION**

**Causes Eye Irritation • Harmful If Absorbed Through Skin • Avoid contact with skin, eyes or clothing.**

**Personal Protective Equipment (PPE)****Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as butyl rubber ≥14 mils, or natural rubber ≥14 mils, or neoprene rubber ≥14 mils or nitrile rubber ≥14 mils
- Shoes plus socks

See Engineering Controls for additional requirements.

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.

### Engineering Controls

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

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)].

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

**Non-Target Organism Advisory:** This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

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

This chemical can contaminate surface water through spray drift.

**Surface water advisory:** This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching aquatic sediment via runoff for several weeks after application. A level well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of Cloransulam-methyl from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

#### (Storage and Disposal for rigid containers 5 gal or less)

### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrigid containers any size)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for refillable rigid containers larger than 5 gal)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Refillable container. 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 from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: 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. Turn the container over onto its other 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refer to label booklet for Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-275

EPA Est. \_\_\_\_\_

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

**Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET WEIGHT** \_\_\_\_

(Label booklet cover):

CLOANSULAM-METHYL	GROUP	2	HERBICIDE
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**FirstRate®****HERBICIDE****For broadleaf weed control in soybeans.**

Active Ingredient:

cloransulam-methyl: N-(2-carbomethoxy-  
6-chlorophenyl)-5-ethoxy-7-  
fluoro(1,2,4)triazolo-[1,5-c]pyrimidine-  
2-sulfonamide ..... 84%

Other Ingredients ..... 16%

Total ..... 100%

Contains 0.84 lb of active ingredient per pound of product.

**Keep Out of Reach of Children****CAUTION****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.

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**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to inside of label booklet for additional precautionary information including Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

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**NET WEIGHT \_\_\_\_**

(Page 1 through end):

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

## CAUTION

**Causes Eye Irritation • Harmful If Absorbed Through Skin • Avoid contact with skin, eyes or clothing.**

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as butyl rubber  $\geq 14$  mils, or natural rubber  $\geq 14$  mils, or neoprene rubber  $\geq 14$  mils or nitrile rubber  $\geq 14$  mils
- Shoes plus socks

See Engineering Controls for additional requirements.

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.

### Engineering Controls

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

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)].

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
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### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

**Non-Target Organism Advisory:** This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

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

This chemical can contaminate surface water through spray drift.

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### Directions for Use

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

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

### Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. **Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

### Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in original container only. In case of leak or spill, contain material with absorbent materials and dispose as waste.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site according to label use directions or at an approved waste disposal facility.

### Nonrefillable rigid containers 5 gallons or less:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10



seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Nonrefillable nonrigid containers:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refillable rigid containers larger than 5 gal:**

**Container Handling:** Refillable container. 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 from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

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## Product Information

FirstRate® herbicide controls many economically important broadleaf weeds in soybeans. FirstRate may be applied preplant incorporated, preplant surface, preemergence or postemergence.

## Use Precautions

- Read and carefully follow all applicable directions, precautions and restrictions on labeling for other products used in combination with FirstRate.
- Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage. To minimize spray drift, apply FirstRate in a spray volume of 3 or more gallons per acre. Increase spray volume to 5 or more gallons per acre when there is a heavy weed pressure or dense crop foliage.

**Iron Chlorosis:** There are isolated geographic areas where soil-induced iron chlorosis routinely occurs. In these areas, the severity of iron chlorosis symptoms or other nutrient induced crop injury may increase when FirstRate is applied.

## Crop Rotation Intervals

When tank mixing with other herbicides, follow crop rotation guidelines on the label of each product used. The following rotational crops may be planted at the indicated interval following application of FirstRate. Unusual climatic or environmental conditions that may increase the likelihood of rotational crop sensitivity (i.e., corn, sugar beets, sunflowers) include lower than normal rainfall and/or soil temperatures in the fall and spring; and/or soil pH extremes.

Numbers in parentheses (-) refer to Specific Crop Rotation Information.

Crop	Rotation Interval (1) (Months)
soybeans	0
wheat	4
alfalfa, field corn, popcorn, seed corn (2), cotton, peanuts, rice, sorghum, dry beans, lima beans, oats, peas, snap beans	9
barley	12
potatoes, sweet corn	18
tobacco (3) and other crops not listed	18 (3)
sugar beets, sunflowers (4)	30 (4)

#### Specific Crop Rotation Information:

1. Minimum number of months that must pass before planting other crops after application of FirstRate at up to 0.75 oz per acre soil applied and/or 0.3 oz per acre postemergence.
2. **Hybrid seed production:** Corn inbred lines grown for hybrid seed production may be injured the growing season following an application of FirstRate. Inbred lines should be thoroughly tested for crop tolerance before rotating to large acreage. While growers are not prohibited from rotating to seed corn in the growing season following an application of FirstRate, **Dow AgroSciences will not accept responsibility for any crop injury on field corn grown for seed following an application of FirstRate.**
3. **Transplanted tobacco may be planted 10 months after application of 0.3 oz per acre of FirstRate.**
4. Rotation to sugar beets and sunflowers require a 30-month rotation interval and a successful field bioassay.

**Field Bioassay Instructions:** Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field previously treated with FirstRate. Plant the strips perpendicular to the direction in which FirstRate was applied. Locate the strips so that different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury, stand reduction, or yield reduction, the field can be seeded with the test crop. If visible injury or stand reduction occurs, do not seed the test crop and repeat the bioassay the next growing season.

#### Use Restrictions

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

Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers 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 washwater, and rainwater that may fall on the pad.

Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above 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.

- Do not make more than one soil application during a single year.
- Do not exceed 0.039 lb active ingredient cloransulam-methyl (0.75 oz of FirstRate) per acre as a soil application (preplant or preemergence).
- Do not apply more than 0.03 lb active ingredient cloransulam-methyl (0.6 oz of FirstRate) per acre as a postemergence application during a single year (either as a single application or as a total of sequential postemergence applications).
- The maximum cumulative application rate from preplant, preemergence, and/or postemergence use of cloransulam-methyl must not exceed 0.055 lb active ingredient (1.05 oz of FirstRate) per acre per year.
- **Preharvest Interval: Forage or Hay:** Do not apply within 25 days before harvest. **Soybeans:** Do not apply within 70 days before harvest.
- **Chemigation:** Do not apply this product through any type of irrigation system.
- Do not use flood irrigation to apply or incorporate this product.
- 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.
- Aerial applicators must be in enclosed cockpits.

#### **Handling Precautions for Water Soluble Packets:**

Follow these steps when handling pesticide products in WSPs.

1. Mix in spray tank or induction tank only.
2. Handle WSP(s) in a manner that protects package from breakage and/or unintended release of contents. If package is broken, put on PPE required for clean-up and then continue with mixing instructions.
3. Keep the WSP(s) in outer packaging until just before use.
4. Keep the WSP dry prior to adding to the spray tank.
5. Handle with dry gloves and according to the label instructions for PPE.
6. Keep WSP intact. Do not cut or puncture WSP.
7. Reseal the WSP outer packaging to protect any unused WSP(s).

**Aerial Application:** FirstRate herbicide may be aerially applied for preemergence or postemergence control of broadleaf weeds in soybeans. **Aerial application of this product is prohibited in New York State.**

**Avoid all direct or indirect contact with non-target plants.** Do not apply near desirable vegetation and allow adequate distance between target area and desirable plants to minimize exposure.

**Do not apply under conditions that favor runoff or wind erosion of soil containing FirstRate to non-target areas. To prevent off-site movement due to runoff or wind erosion:**

- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, allow the surface soil to first be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
- Do not apply to soils when saturated with water.

- Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

### **SPRAY DRIFT ADVISORIES**

The applicator is responsible for avoiding off-site spray drift. Be aware of nearby non-target sites and environmental conditions.

**Importance of Droplet Size:** An effective way to reduce spray drift is to apply large droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### **Controlling Droplet Size – Ground Boom**

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle – Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size – Aircraft**

- Adjust Nozzles – Follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

**Boom Height – Ground Boom** – Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

**Release Height – Aircraft** – Higher release heights increase the potential for spray drift.

**Shielded Sprayers** – Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**Temperature and Humidity** – When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**Temperature Inversions** – Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**Wind** - Drift potential generally increases with wind speed. **Avoid applications during gusty wind conditions.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Spray when conditions are calm or wind speed is low. Do not spray when wind is gusting or steady wind speed is greater than 10 mph.

### **Weed Resistance Management**

FirstRate, which contains the active ingredient Cloransulam-methyl is a group 2 herbicide based on the mode of action classification system of the Weed Science Society of America.

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is a best practice. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using the labeled rate and directions for use is important to delay the selection for resistance.

The continued effectiveness of this product depends on the successful implementation of a weed resistance management program.

To aid in the prevention of developing weeds resistant to this product, users should:

- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Start with a clean field, using either a burndown herbicide application or tillage.
- If using post-emergence herbicides or tank mixes, control weeds early when they are relatively small.
- Apply full rates of FirstRate for the most difficult to control weed in the field at the specified time to minimize weed escapes.
- Scout fields after application to detect weed escapes or shifts in control of weed species.
- Control weed escapes before they reproduce by seed or proliferate vegetatively.
- Report any incidence of non-performance of this product against a particular weed to your local company representative, local retailer, or county extension agent.
- Contact your local company representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective modes of action for each target weed.
- If resistance is suspected, treat weed escapes with an herbicide having a mode of action other than Group 2 and/or use nonchemical methods to remove escapes, as practical, with the goal of preventing further seed production.
- Suspected herbicide-resistant weeds may be identified by these indicators:
  - Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
  - A spreading patch of non-controlled plants of a particular weed species; and
  - Surviving plants mixed with controlled individuals of the same species.

Additionally, users should follow as many of the following herbicide resistance management practices as is practical:

- Use a broad spectrum herbicide with other mode of action as a foundation in a weed control program, if appropriate.
- Utilize sequential applications of herbicides with alternative modes of action.
- Rotate the use of this product with non-Group 2 herbicides.
- Avoid making more than two sequential applications of FirstRate and any other Group 2 herbicides within a single growing season unless mixed with an herbicide with a different mode of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Use good agronomic principles that enhance crop development and crop competitiveness.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields to reduce weed seed production.

## Mixing Directions

**To calculate the total number of water soluble packets required for your spray mix:**

1. Determine the number of acres to be treated.

2. Divide the number of acres to be treated by the acres/packet value that corresponds to the desired rate. See rate tables for broadcast application rates and corresponding acres per packet.

**Note:** If the calculated number of packets does not equal a whole number, round to the nearest whole number that does not exceed the maximum allowable use rates per application and per year. Round up only if the maximum allowable use rates are not exceeded.

### **FirstRate - Alone**

Water dispersible granules of FirstRate are packaged in water soluble packets. Thorough mixing prior to and during application is required. **Note:** The film used in water soluble packets is not soluble in liquid fertilizer. If applied in liquid fertilizer, FirstRate **must** be pre-mixed with water to form a slurry and then added to the liquid fertilizer solution. Pre-mixing may also be used if making an application in water. See pre-mixing instructions below.

### **Mixing FirstRate Alone:**

Follow the steps below when mixing this product:

1. If a basket or strainer is present in the tank hatch, remove prior to adding the WSP to the tank.
2. Fill tank with water to approximately one-half of the desired final volume of spray.
3. Stop adding water and stop any agitation.
4. Place intact/unopened WSP(s) into the tank.
5. Do not spray water from a hose or fill pipe to break or dissolve the WSP(s).
6. Start mechanical and recirculation agitation from the bottom of tank without using any overhead recirculation, if possible. If overhead recirculation cannot be turned off, close the hatch before starting agitation.
7. Dissolving the WSP(s) may take up to 5 minutes or longer, depending on water temperature, water hardness and intensity of agitation.
8. Stop agitation before tank lid is opened.
9. Open the lid to the tank, exercising caution to avoid contact with dusts or spray mix, to verify that the WSPs have fully dissolved and the contents have been thoroughly mixed into the solution.
10. Do not add other allowed products or complete filling the tank until the bags have fully dissolved and pesticide is thoroughly mixed.
11. Once the WSP have fully dissolved, add non-ionic surfactants or other adjuvant and resume filling the tank with water to the desired level, close the tank lid, and resume agitation.
12. Use the spray solution when mixing is complete.
13. Maintain agitation of the diluted pesticide mix during transport and application. If product is allowed to settle, thoroughly agitate to resuspend the mixture before spraying. Apply within 24 hours of mixing. Weed control with FirstRate, which has been mixed and allowed to stand for more than 24 hours, may be reduced.
14. It is unlawful to use any registered pesticide, including WSPs, in a manner inconsistent with its label.

**Pre-Mixing (Slurry) of Water Soluble Packets:** The film used in water soluble packaging for FirstRate is not soluble in liquid fertilizer solutions. **In order to add FirstRate to liquid fertilizer carrier, the product must be pre-mixed with water to form a slurry.** Pre-mixing can also be used as an alternative mixing method for application in water. Use a minimum of 1 quart of water for up to 5 water soluble packets of FirstRate. The packets can be stirred immediately on addition to water or allowed to dissolve. Stir (or shake if pre-mixed in a closed container) until the packets are completely dissolved and granules are dispersed and then add to the spray tank through a 20 to 35 mesh screen. Rinse container used for pre-mixing and add rinsate to spray tank.

**Pre-Mixing (Other Products):** If pre-mixing is required for other dry or flowable products applied in tank mix combination with FirstRate, follow directions for pre-mixing of such products provided in their respective product labels.

### **FirstRate - Tank Mix**

If a broader spectrum of weed control is needed, FirstRate may be tank mixed with labeled rates of other herbicides provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Tank Mixing Precautions:**

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates for respective products or maximum allowable application rates for any active ingredient in the tank mix.
- Do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been adequately cleaned. (See Equipment Clean-Out Procedures.)
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of FirstRate and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not a compatible tank mix combination.

Vigorous, continuous agitation during mixing, filling and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture.

**Mixing Order for Tank Mixes:**

**The mixing directions 1 through 9 below take precedence over the mixing direction of the other tank mix products. WSPs may, in some cases, be mixed with other pesticide products so long as the direction for use of all mixed products do not conflict.**

1. If a basket or strainer is present in the tank hatch, remove prior to adding the WSP to the tank.
2. Fill tank with water to approximately one-quarter to one-third of the desired final volume of spray.
3. Stop adding water and stop any agitation.
4. Place intact/unopened WSP(s) into the tank.
5. Do not spray water from a hose or fill pipe to break or dissolve the WSP(s).
6. Start mechanical and recirculation agitation from the bottom of tank without using any overhead recirculation, if possible. If overhead recirculation cannot be turned off, close the hatch before starting agitation.
7. Dissolving the WSP(s) may take up to 5 minutes or longer, depending on water temperature, water hardness and intensity of agitation.
8. Stop agitation before tank lid is opened.
9. Open the lid to the tank, exercising caution to avoid contact with dusts or spray mix, to verify that the WSPs have fully dissolved and the contents have been thoroughly mixed into the solution.
10. Do not add other allowed products or complete filling the tank until the bags have fully dissolved and pesticide is thoroughly mixed.
11. Once the WSP have fully dissolved, add different formulation types in the following order: (1) other formulation(s) packaged in water soluble packets; (2) any compatibility agent, if required; (3) dry flowables; (4) wettable powders; (5) aqueous suspensions, flowables and liquids. Maintain agitation and fill spray tank to 3/4 of total spray volume and add: (6) emulsifiable concentrates; (7) solutions; and (8) adjuvants. Allow time for complete mixing and dispersion after each addition.
12. Resume filling the tank with water to the desired level, close the tank lid, and resume agitation.
13. Use the spray solution when mixing is complete.

14. Maintain agitation of the diluted pesticide mix during transport and application. If application or agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.
15. It is unlawful to use any registered pesticide, including WSPs, in a manner inconsistent with its label.

If application or agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

#### **Clean-Out Procedures for Spray Equipment**

1. Drain any remaining spray mixture from the application equipment.
2. Hose down the interior surfaces of the tank while filling the tank 1/2 full of water.
3. Add household ammonia at a rate of 1 gallon per 100 gallons of water. Recirculate for 5 minutes and spray out part of this mixture for 5 minutes through the boom. Drain tank.
4. Remove all spray nozzles and screens and clean separately.
5. If spray equipment will be used for pesticide application to crops sensitive to FirstRate, repeat steps 1 through 3. Thoroughly clean exterior surfaces of spray equipment.

**Note:** Rinsate must be disposed of on site according to label use directions or at an approved waste disposal facility.

#### **Application in Liquid Fertilizer**

Always pre-mix or slurry FirstRate with water prior to adding to liquid fertilizer in spray tanks. Do not attempt to dissolve water soluble packets in liquid fertilizer. The film used in water soluble packaging is not soluble in liquid fertilizer solutions. To slurry or pre-mix FirstRate, use a minimum of 1/2 pint of water for each packet of product. Make sure FirstRate is completely and uniformly dispersed in water and then add to the spray tank or induction system through a 20 to 35 mesh screen. Add any rinsate to the spray mixture.

When necessary, use a compatibility agent to ensure that FirstRate mixes properly. The use of an appropriate compatibility agent is especially important when tank mixing FirstRate and other dry flowables, wettable powders, flowables, liquids, aqueous suspensions, or solutions with emulsifiable concentrates in liquid fertilizer. If the emulsifiable concentrate formulation rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse. A jar test, utilizing relative proportions of the tank mix ingredients, is recommended prior to mixing with a large quantity of liquid fertilizer.

**Note:** Refer to Clean-Out Procedures for Spray Equipment for directions on cleaning equipment prior to use in crops other than soybeans.

#### **Application with Dry Bulk Fertilizer**

Dry bulk fertilizer may be impregnated or coated with FirstRate. Application of dry bulk fertilizer impregnated with FirstRate provides weed control equal to the same rates of FirstRate applied in liquid carriers. Follow label directions for FirstRate regarding rates per acre, crops, special instructions, cautions and special precautions. Apply 200 to 700 lb of the fertilizer/herbicide mixture per acre. Apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control.

Most dry fertilizers can be used for impregnation with FirstRate. When coated ammonium nitrate and/or limestone are used alone, do not impregnate with FirstRate. These materials will not absorb the



herbicide. Blends containing a mixture of ammonium nitrate and/or limestone as part of the fertilizer mixture can be impregnated.

Compliance with all federal and state regulations relating to blending pesticide mixtures with dry bulk fertilizer, registration, labeling and application are the responsibility of the individual and/or company offering the fertilizer and chemical mixture for sale.

**Impregnation:** FirstRate must be pre-mixed with water to form a slurry prior to impregnation of dry bulk fertilizer. For best results, use a minimum of 1/2 pint of water for each packet of product. Make sure FirstRate is completely and uniformly dispersed in water. Then add sufficient water to adjust the total volume of the mixture to deliver a spray volume of at least 6 pints per ton of fertilizer. Place nozzles used to spray FirstRate onto the fertilizer to provide uniform spray coverage. Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender.

Calculate amounts of FirstRate by the following formula:

$$\frac{2000}{\text{lb/acre of fertilizer}} \times \text{lb/acre of FirstRate} = \text{Pounds of product per ton of fertilizer}$$

**Note:** Thoroughly clean dry fertilizer blending and application equipment prior to use with other herbicides. It is important to clean the blender, herbicide spray tank, and spraying apparatus thoroughly. Rinse the sides of the blender and the herbicide tank with water. Clean spraying apparatus prior to preparing fertilizer/herbicide mixtures for crops other than soybeans (see Clean-Out Procedures for Spray Equipment). Then, impregnate the rinsate onto a load of dry fertilizer intended for an approved crop. Use a maximum rate of 1 gallon of rinsate per ton of fertilizer. Follow with one to two loads of unimpregnated fertilizer in the blender before switching herbicides. The fertilizer application equipment must be empty, clean, and dry before applying any material to crops other than soybeans.

## Soybeans

Apply with ground equipment using a standard low pressure (20 to 40 psi) herbicide sprayer equipped with nozzles that provide uniform coverage. For best results, apply in a spray volume of 10 gallons or more per acre for either soil or postemergence applications. Use sufficient spray volume to provide uniform coverage. Maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture. Screens in spray lines and nozzles should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

### Broadleaf Weeds Controlled by Soil Applications

The following weeds are controlled by FirstRate when applied to the soil surface at specified rates either as a preplant incorporated, preplant surface, or preemergence application (FirstRate does not control known ALS resistant biotypes of these weeds):

cocklebur, common	ragweed, common
horseweed, (marestail)	ragweed, giant
jimsonweed	smartweed, Pennsylvania
lambsquarters, common	sunflower, common
mallow, venice	velvetleaf
morningglory (annual species)	waterhemp species <sup>1</sup>
Palmer amaranth <sup>1</sup>	
pigweed (annual species)	

<sup>1</sup>FirstRate provides partial control of Palmer amaranth and waterhemp. To improve control of these weeds, apply FirstRate in tank mix combination with the appropriate labeled rate of a soil applied Group 15 herbicide such as Dual II Magnum®, Warrant®, or Zidua® or Group 15 herbicide product such as Treflan® or Prowl H20®.

### Application Rates and Methods for Soil Applications (Preplant Incorporated, Preplant Surface Applied, Burndown and Preemergence)

**Note:** Numbers in parentheses (-) refer to footnotes following table. See instructions for Special Situations below.

Area of Use	Soil Organic Matter	FirstRate (oz/acre)	Acres per 0.6 oz Packet (1)
DE, CT, IA, KS, MD, ME, MI, MN, MO (excluding the bootheel), ND, NE, NH, OH, OK, SD, VT, WI, PA, NY, and areas north of Interstate 64 in the states of IL, IN KY, WV, VA.	3% or less	0.6	1
	greater than 3% (2)	0.75	0.8
all areas to the south of the above mentioned geographic area.	all organic matter levels	0.75	0.8

1. See instructions for calculating the total number of water soluble packets required in the Mixing Directions section.
2. Soil applications of FirstRate at 0.75 oz per acre on soils with greater than 5% organic matter may result in reduced weed control. Under these conditions, postemergence applications of FirstRate or other herbicides may be required to control specific weeds.

#### Special Situations:

**Note:** Numbers in parentheses (-) refer to footnotes following table.

Situations	Soil Organic Matter	FirstRate (oz/acre)	Acres per 0.6 oz Packet (1)
moderate to heavy giant ragweed or morningglory infestations	3% or less	0.6 - 0.75	1 - 0.8
applications made 15 to 30 days prior to planting	greater than 3% (2)	0.75	0.8

1. See instructions for calculating the total number of water soluble packets required in the Mixing Directions section.
2. Soil applications of FirstRate at 0.75 oz per acre on soils with greater than 5% organic matter may result in reduced weed control. Under these conditions, postemergence applications of FirstRate or other herbicides may be required to control specific weeds.

#### Preplant Incorporated Application

Apply FirstRate alone or in tank mix combination with other herbicides registered for preplant incorporated application to soybeans. For best results, the seedbed should be relatively free of clods. Incorporate the herbicide(s) into the top 1 to 3 inches of the final seedbed using equipment that provides thorough soil mixing. Do not apply FirstRate earlier than 4 weeks before planting. For best results, apply FirstRate within 2 weeks of planting. When FirstRate is applied in tank mix combination with other herbicide(s), follow the incorporation directions for the tank mix partner(s). Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture.

#### Preplant Surface Application

Apply FirstRate alone or in tank mix combination with other herbicides registered for preplant soil surface application to soybeans. For best results, the seedbed should be relatively free of clods. For best results, apply FirstRate within 2 weeks of planting. Soil surface applications are not effective until rainfall of at least 0.5 inch has moved FirstRate into surface soil where weed germination occurs. If rainfall is not

anticipated, for best results, shallow incorporate (i.e., 2 inches deep) prior to planting to place FirstRate in contact with germinating weeds. FirstRate may provide suppression of annual grasses at rates greater than 0.3 oz per acre if there is sufficient rainfall to move the herbicide into the soil prior to weed germination. Timely subsequent rainfall is required for optimal herbicidal activity. If applied in tank mix combination, follow use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. **Note:** Reduced weed control in the planted row may occur if untreated soil is exposed during planting operations.

### **Burndown Application**

When used as a burndown treatment, FirstRate alone will provide foliar activity on those broadleaf weeds listed in the Postemergence Application section of this label. In addition, FirstRate will provide residual control of broadleaf weeds listed under the Application Rates and Methods for Soil Applications section. FirstRate may provide suppression of annual grasses at rates greater than 0.3 oz per acre if there is sufficient rainfall to move the herbicide into the soil prior to weed germination. Timely subsequent rainfall is required for optimal herbicidal activity. **FirstRate does not control or suppress emerged annual grasses.** Include adjuvants for foliar burndown applications plus a liquid nitrogen fertilizer (see Adjuvant Systems for Postemergence Application section). To broaden the spectrum of weeds controlled, FirstRate may be tank mixed with other herbicides such as glyphosate, glufosinate, paraquat, 2,4-D, etc. If tank mixing, a jar test for compatibility is always recommended.

**Foundation Soil Herbicide in Glyphosate-Tolerant Soybeans:** FirstRate can be used as a foundation soil herbicide in a planned sequential program with products such as Durango<sup>®</sup> DMA herbicide (or any glyphosate product labeled for use in glyphosate-tolerant soybeans). Used as a foundation soil herbicide, FirstRate will control or suppress key broadleaf weeds listed in the soil applied section of this label, allowing for optimal timing of a glyphosate in-crop treatment.

### **Preemergence Application**

Apply after planting but prior to crop or weed emergence. For optimum results, apply FirstRate within two days after planting. FirstRate may be applied alone or in tank mix combination with other herbicides registered for preemergence application to soybeans. When applied in tank mix combination, follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture.

### **Postemergence Application**

FirstRate may be applied any time prior to the R2 (full flower) growth stage of soybeans. Application prior to full emergence of the first soybean trifoliolate leaf may cause temporary yellowing or chlorosis of soybeans. Tank mix partners may cause other effects regardless of the application timing. Follow application timing restrictions of tank mix partners. For FirstRate, optimum application timing for control of labeled weeds is provided in the table below.

Postemergence applications of FirstRate may provide residual soil activity on broadleaf weeds, excluding sicklepod (see soil and postemergence weed lists). Length and effectiveness of residual activity from postemergence applications will vary and is dependent upon weed species, application rate, rainfall following application (minimum of 0.5 inches of rainfall within a week of application), density of the weed and crop canopy at application, and length of subsequent weed germination events.

**Environmental Conditions and Herbicidal Activity of FirstRate:** Factors in effective weed control with FirstRate include application rate, weed size, temperature, and soil moisture prior to and following application, and use of adjuvants. Best weed control results are obtained when FirstRate is applied to small, actively growing weeds, when daytime temperatures are warm (70°F or more), and optimal soil moisture to support active weed growth prior to and following application. If weeds are under drought stress, consider delaying application until more favorable conditions resume. Application when weeds are under temperature or moisture stress, or larger than the recommended size, may result in reduced control.

- FirstRate is rainfast in 2 hours.

- Applications made immediately prior to, during, or immediately following periods of heat and/or drought stress, large day/night temperature fluctuations or where daytime temperatures do not exceed 60°F may decrease weed control.
- Poor weed control may result from applications made to plants under stress from: abnormally hot or cold weather; environmental conditions such as drought, water-saturated soils, hail damage, or frost; or prior herbicide applications

**Application Rate for Postemergence Applications:** Apply as a broadcast spray at a rate of 0.3 oz per acre prior to the maximum leaf stage and weed height for listed weeds using one of the recommended adjuvant systems. A second application of up to 0.3 oz of FirstRate per acre may be applied to later germinating weeds. For especially heavy weed infestations or added residual control, FirstRate may be used as a single application at a rate of up to 0.6 oz per acre. Do not apply more than a total of 0.6 oz per acre per year as a postemergence application. FirstRate may be applied alone or in tank mix combination with other labeled herbicides registered for postemergence application to soybeans. Refer to labels for additional instructions and recommendations pertaining to tank mixes.

FirstRate (oz/acre)	Acres per 0.6 oz Packet <sup>1</sup>
0.3	2
0.6	1

1. See instructions for calculating the total number of water soluble packets required in the Mixing Directions section.

**Broadleaf Weeds Controlled and Optimum Stage of Growth:** The following weeds are controlled by FirstRate when applied postemergence at the indicated weed stage of growth. FirstRate does not control known ALS resistant biotypes of these weeds. To improve coverage and product performance in heavy weed infestations, use a minimum of 15 gallons per acre spray volume.

**Note:** Numbers in parentheses (-) refer to Weed-Specific Use Information following table.

Target Weeds	Leaf Number at Application (Optimum to Maximum)	Maximum Height (inches)
<b>Controlled</b>		
cocklebur, common	4 - 8	10
dayflower, Asiatic	2 - 6	NA
dayflower, marsh	2 - 6	NA
dayflower, spreading	2 - 6	NA
horseweed (marestail)	---	6
jimsonweed	2 - 4	4
mallow, venice	2 - 4	<3
marshelder	4 - 6	10
morningglory (annual species) (1)	2 - 4	4
mustard, wild (2)	2 - 4	2
ragweed, common	4 - 6	8
ragweed, giant	4 - 6	10
sicklepod (3)	cotyledon - 1	<2
smartweed, Pennsylvania	2 - 4	6
sunflower, common	4 - 8	12
velvetleaf (4)	2 - 4	6
<b>Suppressed</b>		
burcucumber	2 - 4	6
Canada thistle	---	10
hophornbeam copperleaf	1 - 2	4
nutsedge, yellow	---	8

**Weed-Specific Use Information**

1. **Morningglory:** Spray before morningglory plants begin to send out runners.
2. **Wild mustard:** For optimum control, apply before wild mustard plants exceed 4 inches in diameter.
3. **Sicklepod:** Applications made to sicklepod plants later than the 1-leaf stage of growth will likely result in reduced control. A repeat application of FirstRate may be necessary 7 to 10 days after the first (do not apply more than a total of 0.6 oz per acre per year as a postemergence application). Application of other postemergence herbicides may be necessary to control later germinating sicklepod plants.
4. **Velvetleaf:** When velvetleaf is a primary target weed, always include urea ammonium nitrate (UAN) or ammonium sulfate (AMS) with nonionic surfactant, crop oil concentrate or methylated seed oil as the adjuvant system.

**Adjuvant Systems for Postemergence Application:** Use in combination with one of the following adjuvant systems approved for application to growing crops:

- Nonionic surfactant at 1 to 2 pints per 100 gallons of spray mixture (0.125 to 0.25% v/v) plus urea ammonium nitrate at 2.5 gallons per 100 gallons (2.5% v/v)<sup>1</sup>. Nonionic surfactant may be used alone at 2 pints per 100 gallons of spray mixture 0.25% v/v when required in certain tank mixes.
- Crop oil concentrate or methylated seed oil at 1.2 gallons per 100 gallons of spray mixture (1.2% v/v).
- Crop oil concentrate or methylated seed oil at 1.2 gallons per 100 gallons of spray mixture (1.2% v/v) plus urea ammonium nitrate solution at 2.5 gallons per 100 gallons (2.5% v/v).

<sup>1</sup>Dry ammonium sulfate may be used at a rate of 2 lb per acre (8.5 to 17 lb per 100 gallons of spray mixture) as a substitute for urea ammonium nitrate.

**Note:** Use of crop oil concentrate or methylated seed oil plus urea ammonium nitrate is preferred when weeds are under drought stress, but may increase crop injury.

Refer to soil and post application instructions section for mixing instructions and mixing order for tank mix products and adjuvants.

**Tank Mix Options:** For weeds not listed for postemergence control with FirstRate, the herbicides listed below may be used per label instructions. When applied in tank mix combination with other herbicides, follow all use instructions for all products, including application rates, precautions and restrictions for each product used in the tank mixture, including use of adjuvants.

**Note:** Numbers in parentheses (-) refer to footnotes following table.

<b>Broadleaf Herbicides</b>	<b>Grass Herbicides</b>
Basagran	Assure II (3)
Cadet	Durango DMA, glyphosate (1)
Classic	Fusion (2)
Cobra	Poast Plus
Durango DMA glyphosate (1)	Roundup Original MAX (1), Roundup
Flexstar	WeatherMAX (1)
Glufosinate (2)	Select Max (3)
Harmony GT	
Phoenix	
Pursuit	
Raptor	
Reflex	
Resource	
Synchrony STS	
Ultra Blazer	

1. Tank mixtures of FirstRate plus glyphosate products may only be used postemergence in-crop over glyphosate-tolerant soybeans (refer to paragraph below for specific use instructions for tank mixing FirstRate with these products).

2. Tank mixtures of FirstRate plus glufosinate may only be used postemergence in-crop over glufosinate-tolerant soybeans (refer to paragraph on tolerant soybeans for specific use instructions for tank mixing FirstRate with these products).
3. Under certain conditions, tank mixing FirstRate with these postemergence grass herbicides may reduce their activity on some grass species. However, broadleaf weed control with FirstRate will not be affected. This grass antagonism may be overcome by using full labeled rates of these grass herbicides in tank mixtures with FirstRate. Making separate applications of FirstRate and Assure II or Fusion is the most effective method for reducing the potential for antagonism. Do not tank mix Assure II with FirstRate when the target weed is woolly cupgrass or fall panicum, as reduced control may occur.

**Other Postemergence Herbicide Applications:** Apply other postemergence herbicides at least 7 days before or 7 days after an application of FirstRate.

**Precautions for Postemergence Applications of FirstRate with Foliar Insecticides:** FirstRate may be tank mixed with the foliar applied Lorsban®-4E insecticide or synthetic pyrethroid products. The addition of other herbicides with FirstRate in combination with an insecticide may increase the risk for crop injury in the form of stunting or leaf burn.

**FirstRate + Glyphosate and FirstRate + Glufosinate Tank Mix in Glyphosate and Glufosinate-Tolerant Soybeans:** FirstRate at 0.3-0.6 oz per acre may be tank mixed with Durango DMA, or other glyphosate herbicides labeled for use in glyphosate-tolerant soybeans and glufosinate for use in glufosinate-tolerant soybeans to enhance control of key broadleaf weeds such as giant ragweed, marestail, morningglory, velvetleaf, and others listed under the Postemergence Application section of this label. Residual control from FirstRate may also reduce the potential need for subsequent postemergence applications.

As a general rule, for best results when tank mixing FirstRate with glyphosate and glufosinate herbicides, add ammonium sulfate (AMS) at 8.5 to 17 lb per 100 gallons of spray mixture. The order of mixing is: (1) water; (2) FirstRate; (3) AMS; and (4) glyphosate product. **No additional** non-ionic surfactant is required when tank mixing with surfactant-loaded glyphosate herbicide such as Durango DMA.

**Note:** If a non-surfactant-loaded glyphosate herbicide is tank mixed with FirstRate, a non-ionic surfactant is required. Add no less than 1 to 2 pints per 100 gallons of spray mixture (0.125 to 0.25% v/v). Add the non-ionic surfactant before completing the filling process.

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### Terms and Conditions of Use

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If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent permitted by law, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitations of Remedies.

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### Warranty Disclaimer

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Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT PERMITTED BY LAW, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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### Inherent Risks of Use

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It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes),

presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

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### **Limitation of Remedies**

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To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

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