

# Specimen Label



Dow AgroSciences



HERBICIDE

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Group	2	HERBICIDE
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## 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.

## Precautionary Statements

### Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-275

## 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

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

### User Safety Recommendations

Users should:

- 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.

### 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.

## 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.

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

This chemical can contaminate surface water through spray drift.

Under some conditions, this chemical, and/or its transformation products, may have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several weeks post-application. Vulnerable conditions include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

## Directions for Use

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. **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.

## Storage and Disposal (Cont.)

### 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:

**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. **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.

- **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.
- Read and carefully follow all applicable directions, precautions and restrictions on labeling for other products used in combination with FirstRate.
- 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.

**Handling Precautions for Water Soluble Packets:** Do not remove water soluble packet from overpack except for immediate use. Do not allow water soluble packet to come into contact with water prior to use. Do not handle water soluble packet with wet hands or wet gloves. Do not open water soluble packets. Partial use of packets is not allowed. Carefully reseal overpack containing unopened water soluble packets and protect package from moisture.

**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.**

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.

**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, the soil surface should first be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered 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.

**Do not apply when weather conditions favor drift to non-target sites. To minimize spray drift to non-target areas:**

- Use low pressure application equipment capable of producing a large droplet spray.
- Do not use nozzles that produce a fine-droplet spray.
- Minimize drift by using sufficient spray volume to ensure adequate coverage with large droplet size sprays.
- Keep ground-driven spray boom as low as possible above the target surface.
- 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.

**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)

## 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 and 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.

### 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.

### Weed Resistance Management Guidelines

FirstRate contains Cloransulam –methyl, a Group 2 herbicide (ALS inhibitor). Any weed population may contain plants naturally resistant to Group 2 herbicides. Such resistant weed plants may not be effectively managed using Group 2 herbicides but may be effectively managed utilizing another herbicide alone or in mixtures from a different Group and/or by using cultural or mechanical practices. However, any herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides. Consult your Dow AgroSciences representative, state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

### Best Management Practices

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action an overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using full labeled rates and following directions for use is important to delay the selection for resistance. Scouting after a herbicide application is important because it can facilitate the early identification of weed shifts and/or weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in retarding the spread of resistant weed seed.

### General principles of herbicide resistance management

1. Apply integrated weed management practices. Use multiple herbicide modes-of-action with overlapping weed spectrums in rotation, sequences, or mixtures.
2. Use the full labeled herbicide rate and proper application timing for the hardest to control weed species present in the field.
3. Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
4. Monitor site and clean equipment between sites.

### For annual cropping situations, also consider the following:

- Start with a clean field and control weeds early by using a burndown treatment or tillage in combination with a preemergence residual herbicide as appropriate.
- Use cultural practices such as cultivation and crop rotation, where appropriate.
- Use good agronomic principles that enhance crop competitiveness.
- Use new commercial seed that is as free of weed seed as possible.

### 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:

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 water soluble packets by opening the overpack and adding water soluble packet (product in transparent film) directly to the spray tank while agitating and allow time to disperse. Do not open water soluble packets. Water soluble packets will float on the surface until the water soluble film is dissolved and product is released. Minimize handling of the packets with hands. Do not handle if hands or gloves are wet. If liquid fertilizer is being used as the spray carrier rather than water, pre-mix the water soluble packets as described below before adding to the spray tank.
4. After water soluble packets of FirstRate have completely dissolved (approximately 5 minutes), add non-ionic surfactants or other adjuvant materials.
5. Before spraying, make sure that water soluble packets have completely disintegrated and product is thoroughly mixed with the spray carrier. Depending upon the water temperature and the degree of agitation, the packet and its contents should be completely dispersed within 5 minutes after being added to the spray tank.
6. Continue agitation while filling the spray tank to the required volume.
7. 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.

**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.

### 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 compatible and the tank mix combination should not be used.



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 water soluble packets by opening the overpack and adding water soluble packet (product in transparent film) directly to the spray tank while agitating and allow time to disperse. Do not open water soluble packets. Water soluble packets will float on the surface until the water soluble film is dissolved and product is released. Minimize handling of the packets with hands. Do not handle if hands or gloves are wet. If liquid fertilizer is being used as the spray carrier rather than water, pre-mix the water soluble packets 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**

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

<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 H2O®.

**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

Target Weeds (Cont.)	Leaf Number at Application (Optimum to Maximum)	Maximum Height (inches)
<b>Controlled (Cont.)</b>		
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	1 - 2	4
copperleaf		
nutsedge, yellow	---	8

#### Weed-Specific Use Information

- Morningglory:** Spray before morningglory plants begin to send out runners.
- Wild mustard:** For optimum control, apply before wild mustard plants exceed 4 inches in diameter.
- 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.
- 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 WeatherMAX (1)
Flexstar	Select Max (3)
Glufosinate (2)	
Harmony GT	
Phoenix	
Pursuit	
Raptor	
Reflex	
Resource	
Synchrony STS	
Ultra Blazer	

- 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).
- 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).
- 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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## Inherent Risks of Use

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

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**Produced for**  
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Label Code: D02-034-016  
Replaces Label: D02-034-015  
LOES Number: 010-00031  
EPA accepted 04/16/15

## Revisions:

1. Update Trademark
2. Update the Mode of Action
3. Changed Preharvest Interval of Forage or Hay from 14 to 25 days and Soybeans from 65 to 70 days.
4. Revised Aerial Application statement to "FirstRate herbicide may be aerially applied for preemergence or postemergence control of broadleaf weeds in soybeans." Added statement about nozzle types and arrangements.
5. Added "Weed Resistance Management Guideline" section.
6. Added "Best Management Guideline" Section
7. Under Broadleaf Weeds Controlled by Soil Application added "Palmer aramanth", removing "or Pendimax® 3.3 herbicide (pendimethalin)" and revised footnote 1 by adding Warrant, Zidua, and Prowl H2O.
8. Under "Burndown Application" added "glufosinate".
9. Under "Postemergence Application removed "50% flowering" and added "R2 (full flower) growth".
10. Under Application Rate for Postemergence Applications Add the following: 1. "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 season as a postemergence application." 2. Added increased rate to the table 0.6 and 1 acre per 0.6 oz packet.
11. Revised Tank Mix Options table: 1. Removed "Glyphomax XRT"; 2. Removed "Touchdown IQ"; 3. Removed "Touchdown Total"; 4. Removed "Reliance"; 5. Removed "Roundup Original MAX (1), Roundup WeatherMAX (1)"; 6. Removed "Touchdown IQ (1), Touchdown Total (1)"; 7. Added "DMA" after Durango; 8. Added "Glyphosate (1): to both sides of the table; 9. Added "Max" after Select; 10. Added Cadet; 11. Changed "Assure II (2)" to "Assure II (3)".
12. Revised Footnote 1 to remove "or sulfosate".
13. Inserted footnote new #2
14. Updated Warranty statement