

# Specimen Label



Dow AgroSciences



**HERBICIDE**

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

**For Preplant and Preemergent Control of Certain Weeds in Herbicide Tolerant and Conventional Soybeans.**

|       |   |    |            |
|-------|---|----|------------|
| Group | 2 | 14 | HERBICIDES |
|-------|---|----|------------|

WG-Water Dispersible Granules

**Keep Out of Reach of Children**

**CAUTION**

Active Ingredient:

|                           |      |
|---------------------------|------|
| *Cloransulam-methyl ..... | 12%  |
| **Flumioxazin .....       | 36%  |
| Other Ingredients .....   | 52%  |
| Total .....               | 100% |

\*N-(2-carbomethoxy-6-chlorophenyl)-5-ethoxy-7-fluoro(1,2,4)triazolo-[1,5-c]pyrimidine-2-sulfonamide

\*\*2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione

## Precautionary Statements

### Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-689

**Keep Out of Reach of Children**

**CAUTION**

- Causes moderate eye irritation • Avoid contact with eyes or clothing •
- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

### Personal Protective Equipment (PPE)

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

**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, use detergent and hot water. Keep and wash PPE separately from other laundry.

## User Safety Recommendations

Users should:

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

## 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-892-0099 for emergency medical treatment information.

## Environmental Hazards

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

Cloransulam-methyl 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.

Cloransulam-methyl can contaminate surface water through spray drift. Under some conditions, cloransulam-methyl, 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 infield 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 ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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 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. 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.

## Nonrefillable containers 5 gallons or less:

### Storage and Disposal

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

**Pesticide Storage:** Store this product only in its original container in a dry, cool, secured storage area. Store this product above 32°F to avoid crystallization. If crystals form or product freezes, move product to area with ambient temperature above 32°F and shake well until crystals have dissolved.

**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. 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.

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.

## Refillable containers larger than 5 gallons:

### Storage and Disposal

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

**Pesticide Storage:** Store this product only in its original container in a dry, cool, secured storage area. Store this product above 32°F to avoid crystallization. If crystals form or product freezes, move product to area with ambient temperature above 32°F and shake well until crystals have dissolved.

**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. 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.

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### Storage and Disposal

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**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. 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.

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.

## Product Information

Surveil™ herbicide is designed for preplant or preemergence control of broadleaf and grass weeds in herbicide tolerant and conventional soybeans.

Moisture is necessary to activate Surveil in soil for residual weed control. Dry weather following applications of Surveil may reduce effectiveness. However, when adequate moisture is received after dry conditions, Surveil will control susceptible germinating weeds. Surveil may not control weeds that germinate after application but before an activating rainfall/irrigation or weeds that germinate through cracks resulting from dry soil.

When adequate moisture is not received after a Surveil application, weed control may be improved by irrigation with at least 1/2 inch of water within 7 days of application. If emerged weeds are controlled by cultivation, residual weed control will be reduced.

**Important:** Crop injury may occur from applications made to poorly drained soils and/or applications made under cool, wet conditions. Risk of crop injury can be minimized by using on well drained soils, planting at least 1.5 inches deep, using high quality seed and completely covering seeds with soil prior to preemergence applications. Treated soil that is splashed onto newly emerged crops may result in temporary crop injury.

## Use Precautions and Restrictions

- Do not apply this product through any type of irrigation system.
- Do not apply this product when weather conditions favor spray drift from treated areas.
- Do not graze treated fields or feed treated forage or hay to livestock.
- When applying by air, observe drift management restrictions and precautions listed under "Aerial Application".
- Do not apply Surveil by air in the state of New York.

## AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Where states have more stringent regulations, they should be observed. Surveil provides residual control of susceptible weeds in soybeans. Surveil can also be used as part of a burndown program in soybeans.

## Rotational Restrictions

The following rotational crops may be planted after applying Surveil at the listed rate. Planting earlier than the recommended rotational interval may result in crop injury.

| Crops   | Rotational Interval (Months) <sup>1,2</sup> |
|---|---|
| Soybean   | Immediately                                 |
| Wheat   | 3   |
| Field Corn, Popcorn, Seed Corn <sup>3</sup> , Cotton, Peanuts, Rice, Sorghum, Dry Beans, Lima Beans, Oats, Peas, Snap Beans | 9   |
| Alfalfa   | 10  |
| Potatoes, Sweet corn  | 18  |
| Sugar Beets, Sunflowers, Tobacco <sup>4</sup>   | 30  |

<sup>1</sup>Hybrid Seed Production: Corn inbred lines grown for hybrid seed production may be injured during the growing season following an application of Surveil. 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 Surveil, to the extent consistent with applicable law, **Dow AgroSciences will not accept responsibility for any crop injury on field corn grown for seed following an application of Surveil.**

<sup>2</sup>Transplanted tobacco may be planted 10 months after application of 2.1 oz/A of Surveil. Tobacco in seedbed nurseries may be planted 18 months after application of 2.1 oz/A of Surveil and following a successful field bioassay. A rotational interval of 30 months and a successful field bioassay is required for all Surveil applications greater than 2.1 oz/A.

<sup>3</sup>At least one inch of rainfall/irrigation must occur between application and planting or crop injury may occur.

<sup>4</sup>Successful soil bioassay must be performed prior to planting canola, sugar beets and other crops not listed.

## Replanting Instructions

If the initial planting of soybeans fails to produce a uniform stand, soybeans may be replanted in fields treated with Surveil alone. Do not re-treat fields with a second application of Surveil. When tank-mixing with

a labeled product, refer to replant instructions for that product. Do not replant treated fields with any crop at intervals that are inconsistent with the rotational crop guidelines on the label for Surveil

**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 Surveil. Plant the strips perpendicular to the direction Surveil was applied. The strips should be located 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, the test crop should not be seeded, and the bioassay must be repeated the next growing season.

#### **Weed Resistance Management Guidelines**

Surveil contains cloransulam-methyl, a Group 2 herbicide (ALS inhibitor), and flumioxazin, a Group 14 herbicide (PPO inhibitor). Any weed population may contain plants naturally resistant to Group 2 or Group 14 herbicides. Such resistant weed plants may not be effectively managed using Group 2 or Group 14 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 and 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.

#### **Burndown Applications**

For best results, Surveil should be applied as part of a burndown program to actively growing weeds. Applying Surveil under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply Surveil when weeds are under stress due to drought, excessive water, extremes in temperature, disease, or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. Surveil is most effective when applied under warm sunny conditions.

Reduced residual weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

#### **Rainfastness**

Surveil is rainfast two hours after application. Applications should not be made if rain is expected within two hours of application or efficacy may be reduced.

#### **Soil Characteristics**

Application of Surveil to soils with high organic matter and/or high clay content may require higher dosages than soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

**Carrier Volume and Spray Pressure** (Ground Equipment only. See Information for Aerial Equipment under "Aerial Application".)

#### **Preemergence Applications (Conventional Tillage)**

To ensure uniform coverage, use 10 to 30 gal. spray solution per acre for conventional tillage applications. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for preemergence herbicide application.

#### **Burndown Applications (Prior to Crop Emergence)**

To ensure thorough coverage in burndown applications, use 15 to 30 gal. spray solution per acre. Use 20 to 30 gal. per acre if dense vegetation or heavy crop residue is present. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for postemergence herbicide application.

#### **Additives**

#### **Burndown Applications (Prior to Crop Emergence)**

Postemergence control of weeds from Surveil requires the addition of an agronomically approved adjuvant to the spray mixture. Either a crop oil concentrate or methylated seed oil which contains at least 15% emulsifiers and 80% oil, or a non-ionic surfactant at 0.25% v/v, may be used when applying Surveil as part of a burndown program. Some tank mix partners, such as Durango DMA, are formulated with sufficient adjuvants and do not require the addition of a crop oil concentrate, methylated seed oil, or a non-ionic surfactant at 0.25% v/v, when tank mixed with Surveil. An exception to this may be when tank mix products are applied at spray volumes in excess of 20 gal. per acre. Always check tank mix product label or manufacturer representative for adjuvant recommendations under elevated spray volume applications as additional adjuvants may be suggested. The addition of a crop oil concentrate, methylated seed oil or a non-ionic surfactant at 0.25% v/v may increase the burndown activity on certain weeds such as cutleaf eveningprimrose and Carolina geranium. Mixing compatibility qualities should be verified by a jar test.

A spray grade nitrogen source (either ammonium sulfate at 2.0 to 2.5 lbs/A or a 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to the spray mixture along with either a crop oil concentrate, methylated seed oil or non-ionic surfactant to enhance weed control. The addition of a nitrogen source does not replace the need for a crop oil concentrate or a methylated seed oil.

#### **Jar Test To Determine Compatibility of Adjuvants and Surveil**

1. When using Surveil and an adjuvant for the first time (or a new water source is being used), such as in stale seed bed or reduce tillage situations, a jar test should be performed before mixing commercial quantities of Surveil.
2. Add 1 pt of the water to a quart jar to simulate 10 gal. per acre water volume. The water should be from the same source and temperature as which will be used in the spray tank mixing operation.
3. Add 1 g of Surveil to the quart jar for every 3 oz/A of Surveil being applied (1 g if 3 oz/A is the desired Surveil rate). Gently mix until product goes into suspension.
4. Add other products in this order: dry flowables (WGs), suspension concentrates (SCs), emulsifiable concentrates (ECs). Gently mix until product(s) go into suspension/emulsification.
5. Add 60 ml (4 Tbsp or 2 fl oz) of the crop oil of methylated seed oil or 1 ml of a non-ionic surfactant if it is being used in place of oil to the quart jar, gently mix.
6. If nitrogen is being used, add 16 ml (1 Tbsp or 0.5 oz) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 g AMS to the quart jar in place of the 28 to 32% nitrogen.
7. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
8. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed the choice of adjuvant should be questioned:
  - o Layer of oil or globules on the mixture's surface.
  - o Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
  - o Clabbering: Thickening texture (coagulated) like gelatin.

#### **Sprayer Preparation**

Before applying Surveil, start with clean, well-maintained application equipment. The spray tank, as well as all hoses and booms, must be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to, the sulfonyleurea and phenoxy herbicides, (e.g. Classic® and 2,4-D, respectively) are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment must be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply Surveil. If two or more products were tank mixed prior to Surveil application, the most restrictive cleanup procedure should be followed.

## Mixing Instructions

1. Do not add any liquid fertilizers, micronutrients or adjuvants to the spray solution until after the Surveil has been added to the tank and fully dispersed. Please ensure agitation is continuous throughout tank mixing preparation and application. Fill clean spray tank 1/2 to 2/3 of desired level with clean water while agitating, add the correct amount of Surveil and make sure the granules have dispersed completely before proceeding. Agitation should create a rippling or rolling action on the water surface.
2. If tank mixing Surveil with other labeled herbicides, add water soluble bags first, followed by dry formulations (WG's), flowables (SC, SE, CS), emulsifiable concentrates (EC), and then solutions (SL). Prepare no more spray mixture than is required for the immediate spray operation. If tank mixing paraquat (e.g. Gramoxone Inteon) with Surveil, a non-ionic surfactant **MUST** be added **BEFORE** addition of the paraquat containing product. Fill spray tank to desired level with water. **Agitation should continue until all spray solution has been applied.**

Mix only the amount of spray solution that can be applied the day of mixing. Surveil should be applied within 6 hours of mixing

## Sprayer Cleanup

Spray equipment must be cleaned each day following Surveil application. After Surveil is applied, the following steps must be used to clean the spray equipment.

1. Completely drain the spray tank and system by removing and emptying all screens and screen housings, hoses and draining booms by removing the boom end caps. Rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank, add 1 gal. of 3% household ammonia for every 100 gal. of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes. If anti-drip diaphragms are being used, loosen them prior to flushing the system, allowing cleaning solution to spray through the open diaphragm. If spray line and booms have end cap, they must be loosened and drained before flushing the system, allowing cleaning solution to spray through the loosened caps. To enhance removal of Surveil from the spray system, add a tank cleaner such as "Valent Tank Cleaner" from Valent U.S.A. Corporation, in place of ammonia and allow the cleaning solution to remain in the system (spray tank, hoses and boom) overnight before flushing the system for a minimum of 15 minutes.
4. Drain tank completely.
5. Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 2 minutes.
6. Remove all nozzles and screens and rinse them in clean water.

Spray equipment, including all tanks, hoses, booms, screens and nozzles, should be thoroughly cleaned before it is used to apply postemergence pesticides. Equipment with Surveil residue remaining in the system may result in crop injury to the subsequently treated crop.

## Application Equipment

Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy.

## Broadcast Application

Apply Surveil and Surveil tank mixes with ground equipment using standard commercial sprayers equipped with flat fan or flood nozzles (preemergence applications only) designed to deliver the desired spray pressure and spray volume.

## Band Application

When banding, use proportionately less water and Surveil per acre.

## Aerial Application

**[Do not apply Surveil by air in the state New York.]**

Spray drift away from the site of application may cause damage to non-target vegetation. To minimize drift, apply the largest droplet size consistent with uniform coverage and satisfactory weed control. To obtain satisfactory application and avoid drift, the following directions must be observed:

- Do not apply during low-level inversion conditions, when winds are gusty, or under other conditions that favor drift. Do not spray when wind velocity is less than 2 mph or more than 10 mph.
- Do not apply this product by air within 40 ft of non-target plants including non-target crops.
- Do not apply this product by air within 100 ft of emerged cotton crops.
- Do not apply this product by air within 40 ft of streams, wetlands, marshes, ponds, lakes and reservoirs.
- **Carrier Volume and Spray Pressure:** When used as part of a burndown weed control program, apply Surveil in 7 to 10 gal. of water per acre. Application at less than 7 gal. per acre may provide inadequate control. When used for preemergence weed control,

apply Surveil in 5 to 10 gal. per acre of water. The higher gallonage applications generally afford more consistent weed control. Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

- **Nozzle Selection and Orientation:** Formation of very small drops may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray pressure. Use nozzles, which produce flat or hollow cone spray patterns. Use non-drip type nozzles, such as diaphragm type nozzles, to avoid unwanted discharge of spray solution. The nozzles must be directed toward the rear of the aircraft, at an angle between 0 and 15° downward. Do not place nozzles on the outer 25% of the wings or rotors.
- **Adjuvants and Drift Control Additives:** Refer to tank mix partner's label for adjuvant recommendation. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

## Directions For Use In Soybeans

### Restrictions

- Do not apply more than 4.2 oz of Surveil per acre per year.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- Do not tank-mix Surveil with Group 15 herbicides, such as acetochlor (Warrant™), alachlor (Intro®, Micro-Tech®), flufenacet (Axiom®, Domain®), metolachlor (Boundary®, Dual® Magnum, Dual® II Magnum), dimethenamid-P (Outlook®), or pyroxasulfone (Zidua®), within 14 days of planting soybeans, unless soybeans are planted under no till or minimum tillage conditions on wheat stubble or no till field corn stubble.
- Do not irrigate when soybeans are cracking.

### Fall Burndown Programs in Soybeans

Surveil can be used in combination with labeled preplant burndown herbicides to control emerged weeds and provide residual weed control in fields that will be planted the following spring. Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50° F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2) or up until planting, whichever comes first.

### Restrictions and Limitations for Fall Burndown Programs

- Do not apply to frozen or snow covered soil.
- Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

### Fall Application Regions:

**Region 1:** Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia

**Region 2:** Colorado, Connecticut, Delaware, Kansas, Illinois, Indiana, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Wisconsin, and Wyoming

Weeds controlled by postemergence or residual activity, are listed in Table 1. Preplant burndown treatment tank-mixes and rates are:

| Herbicide  | Rate  |
|--|---|
| <b>Program 1</b>   |   |
| Surveil<br><b>Plus</b>   | 3.5 to 4.2 oz/A   |
| Glyphosate<br><b>Plus</b>  | 0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Durango DMA) |
| 2,4-D LVE (2,4-D for use on preplant soybeans only)<br><b>Plus</b> | 0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE) |
| NIS + AMS  | 0.5% v/v + 17 lb/100 gal. of water                            |

Or

|                                     |   |
|-------------------------------------|---|
| <b>Program 2</b>                    |   |
| Surveil<br><b>Plus</b>              | 3.5 to 4.2 oz/A   |
| Glyphosate<br><b>Plus</b>           | 0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Durango DMA) |
| COC <sup>1</sup><br>or<br>NIS + AMS | 1 pt/A<br>or<br>0.5% v/v + 17 lb/100 gal. of water            |

Or

| Program 3  |   |
|--|---|
| Surveil Plus   | 3.5 to 4.2 oz/A   |
| 2,4-D LVE (2,4-D for use on preplant soybeans only) Plus | 0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE) |
| COC  | 1 pt/A  |

<sup>1</sup>Crop oil concentrate has been found to increase glyphosate burndown on emerged cutleaf eveningprimrose or Carolina geranium.

**Spring Burndown Programs – Preemergence to Soybeans, Postemergence to Weeds**

Surveil, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where soybeans will be planted directly into a stale seedbed, cover crop or in previous crop residues. For control of emerged weeds, choose the most appropriate tank mix partner from Table 4 or in tank mix combination with other herbicides registered for preplant and preemergence use in soybean. Apply Surveil with ground equipment before planting, during planting or within 3 days after planting, **but before the crop emerges**. To ensure thorough coverage, use a

minimum of 15 gal. of spray solution per acre. Refer to tank mix partner's label for application pressure. All Surveil tank mixes applied to assist in the control of emerged weeds must be applied with crop oil concentrate or methylated seed oil at 1 to 2 pt/A.

Surveil can be used in combination with labeled preplant burndown herbicides to control emerged weeds and provide residual weed control prior to crop emergence. Weeds controlled by residual activity are listed in Table 2, Section A and Section B.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row. Apply Surveil after planting when these types of planters are used (within 3 days of planting and before the crop emerges).

Based upon soil characteristics (organic matter content and texture), the most difficult to control weed species being targeted and the crop being grown, select the proper Surveil dosage from Table 2. Table 3 lists weeds that are suppressed by Surveil.

**Preplant and Preemergence Application**

Surveil may be applied to soybeans prior to planting or preemergence (after planting). Preemergence applications of Surveil must be made within 3 days after planting and prior to soybean emergence. Application after the soybeans have begun to crack or are emerged will result in severe crop injury. Application should not be made when soybeans have begun to crack. Select Surveil rate from Table 2 according to anticipated weed spectrum.

**Table 1. Weeds Controlled by Fall and Spring Preplant Burndown Programs**

| Weeds Controlled <sup>1</sup>         |                                | Postemergence           |                  |                  | Residual |
|---------------------------------------|--------------------------------|-------------------------|------------------|------------------|----------|
|                                       |                                | Program 1               | Program 2        | Program 3        |          |
|                                       |                                | Weeds 3 inches or less  |                  |                  |          |
| Chickweed                             |                                |                         |                  |                  |          |
| Common                                | <i>Stellaria media</i>         | Yes                     | Yes              | No               | Yes      |
| Mouseear                              | <i>Cerastium vulgatum</i>      | Yes                     | Yes              | No               | Yes      |
| Dandelion                             | <i>Taraxacum officinale</i>    | Yes                     | No               | Yes <sup>2</sup> | Yes      |
| Henbit                                | <i>Lamium amplexicaule</i>     | Yes                     | Yes              | Yes              | Yes      |
| Marestail/Horseweed                   | <i>Conyza canadensis</i>       | Yes                     | Yes <sup>3</sup> | Yes              | Yes      |
| Groundsel, Cressleaf                  | <i>Senecio glabellus</i>       | Yes                     | Yes              | -                | Yes      |
| Purple Deadnettle                     | <i>Lamium purpureum</i>        | Yes                     | Yes              | Yes              | Yes      |
|                                       |                                | Weeds 12 inches or less |                  |                  |          |
| Carolina Geranium                     | <i>Geranium carolinianum</i>   | Yes                     | Yes              | Yes              | -        |
| Eveningprimrose, Cutleaf <sup>4</sup> | <i>Oenothera laciniata</i>     | Yes                     | Yes              | Yes              | Yes      |
| Mustard, Wild                         | <i>Brassica kaber</i>          | Yes                     | Yes              | Yes              | Yes      |
| Shepherd's-purse                      | <i>Capsella bursa-pastoris</i> | Yes                     | Yes              | Yes              | Yes      |

<sup>1</sup>Refer to glyphosate and/or 2,4-D labels for additional weeds controlled and rotational restrictions.

<sup>2</sup>1 lb ai/A of 2,4-D LVE (equivalent to 2 pt./A of 2,4-D 4 LVE) should be used for control of emerged dandelion.

<sup>3</sup>Program 2 will not control populations of marestail with multiple resistance to both glyphosate and ALS inhibitor herbicides.

<sup>4</sup>Program 1 should be used to control cutleaf eveningprimrose that are nearing 12 inches in height or are past the rosette stage. Programs 2 or 3 should be used to control cutleaf eveningprimrose that are 12 inches or less and in the rosette stage.

### Recommendations for Weed Control In Soybeans

Table 2 lists broadleaf weeds controlled by residual activity of Surveil in soybeans.

Table 3 list weeds suppressed by residual activity of Surveil in soybeans.

**Table 2. Broadleaf Weeds Controlled by Residual Activity of Surveil**

| Broadleaf Weed Species              |  |                |                |              |
|-------------------------------------|--|----------------|----------------|--------------|
| Section A                           |  |                |                |              |
| Common Name                         | Scientific Name                                    | Organic Matter | Soil Type      | Surveil Rate |
| Carpetweed                          | <i>Mollugo verticillata</i>                        | Up to 5%       | All Soil Types | 3.5 oz/A     |
| Chickweeds                          |  |                |                |              |
| Common                              | <i>Stellaria media</i>                             |                |                |              |
| Mouseear                            | <i>Cerastium vulgatum</i>                          |                |                |              |
| Dandelion                           | <i>Taraxacum officinale</i>                        |                |                |              |
| Eclipta                             | <i>Eclipta prostrata</i>                           |                |                |              |
| Eveningprimrose, Cutleaf            | <i>Oenothera laciniata</i>                         |                |                |              |
| Florida Pusley                      | <i>Richardia scabra</i>                            |                |                |              |
| Hemp Sesbania                       | <i>Sesbania exaltata</i>                           |                |                |              |
| Henbit                              | <i>Lamium amplexicaule</i>                         |                |                |              |
| Jimsonweed                          | <i>Datura stramonium</i>                           |                |                |              |
| Kochia                              | <i>Kochia scoparia</i>                             |                |                |              |
| Lambsquarters, Common               | <i>Chenopodium album</i>                           |                |                |              |
| Little Mallow                       | <i>Malva parviflora</i>                            |                |                |              |
| Marestail/Horseweed                 | <i>Conyza canadensis</i>                           |                |                |              |
| Morningglories                      |  |                |                |              |
| Entireleaf                          | <i>Ipomoea hederacea</i> var. <i>integriuscula</i> |                |                |              |
| Ivyleaf                             | <i>Ipomoea hederacea</i>                           |                |                |              |
| Pitted                              | <i>Ipomoea lacunosa</i>                            |                |                |              |
| Red/Scarlet                         | <i>Ipomoea coccinea</i>                            |                |                |              |
| Tall                                | <i>Ipomoea purpurea</i>                            |                |                |              |
| Mustard, Wild                       | <i>Brassica kaber</i>                              |                |                |              |
| Nightshades                         |  |                |                |              |
| Black                               | <i>Solanum nigrum</i>                              |                |                |              |
| Eastern Black                       | <i>Solanum ptycanthum</i>                          |                |                |              |
| Hairy                               | <i>Solanum sarrachoides</i>                        |                |                |              |
| Pigweeds                            |  |                |                |              |
| Redroot                             | <i>Amaranthus retroflexus</i>                      |                |                |              |
| Smooth                              | <i>Amaranthus hybridus</i>                         |                |                |              |
| Spiny Amaranth                      | <i>Amaranthus spinosus</i>                         |                |                |              |
| Tumble                              | <i>Amaranthus albus</i>                            |                |                |              |
| Palmer Amaranth                     | <i>Amaranthus palmeri</i>                          |                |                |              |
| Prickly Sida (Teaweed)              | <i>Sida spinosa</i>                                |                |                |              |
| Puncturevine                        | <i>Tribulus terrestris</i>                         |                |                |              |
| Purslane, Common                    | <i>Portulaca oleracea</i>                          |                |                |              |
| Ragweeds, Common <sup>2</sup>       | <i>Ambrosia artemisiifoli</i>                      |                |                |              |
| Redmaids                            | <i>Calandrinia ciliata</i> var. <i>menziessi</i> . |                |                |              |
| Shepherd's-purse                    | <i>Capsella bursa-pastoris</i>                     |                |                |              |
| Smallflower                         |  |                |                |              |
| Morningglory                        | <i>Jacquemontia tamnifolia</i>                     |                |                |              |
| Smartweeds                          |  |                |                |              |
| Ladysthumb                          | <i>Polygonum persicaria</i>                        |                |                |              |
| Pennsylvania                        | <i>Polygonum pensylvanicum</i>                     |                |                |              |
| Spurge, Spotted                     | <i>Euphorbia maculata</i>                          |                |                |              |
| Velvetleaf                          | <i>Abutilon theophrasti</i>                        |                |                |              |
| Venice Mallow                       | <i>Hibiscus trionum</i>                            |                |                |              |
| Waterhemp <sup>1</sup>              | <i>Amaranthus tuberculatus</i>                     |                |                |              |
| Section B                           |  |                |                |              |
| All weeds listed in Section A plus: |  |                |                |              |
| Common Name                         | Scientific Name                                    | Organic Matter | Soil Type      | Surveil Rate |
| Bristly Starbur                     | <i>Acanthospermum hispidum</i>                     | Up to 5%       | All Soil Types | 4.2 oz/A     |
| Cocklebur, Common                   | <i>Xanthium strumarium</i>                         |                |                |              |
| Coffee Senna                        | <i>Cassia occidentalis</i>                         |                |                |              |
| Copperleaf                          |  |                |                |              |
| Hophornbeam                         | <i>Acalypha ostryifolia</i>                        |                |                |              |
| Virginia                            | <i>Acalypha virginica</i>                          |                |                |              |
| Golden Crownbeard                   | <i>Verbesina encelioides</i>                       |                |                |              |
| Florida Beggarweed                  | <i>Desmodium tortuosum</i>                         |                |                |              |
| Hairy Indigo                        | <i>Indigofera hirsuta</i>                          |                |                |              |
| Ragweed, Giant <sup>2</sup>         | <i>Ambrosia trifida</i>                            |                |                |              |
| Russian Thistle                     | <i>Salsolia iberica</i>                            |                |                |              |
| Spurred Anoda                       | <i>Anoda cristata</i>                              |                |                |              |
| Tropic Croton                       | <i>Croton glandulosus</i>                          |                |                |              |
| Wild Poinsettia                     | <i>Euphorbia heterophylla</i>                      |                |                |              |

<sup>1</sup>A postemergence herbicide, such as Cobra<sup>®</sup>, Phoenix<sup>™</sup>, or glyphosate (Roundup Ready soybeans only) may be needed following a preemergence application of Surveil to adequately control waterhemp and Palmer amaranth in soybean fields with heavy pressure.

<sup>2</sup>Does not include ALS resistant common or giant ragweeds.

**Table 3. Weeds Suppressed by Residual Activity of Surveil in Soybeans**

| Grass Weed Species  |   | Organic Matter | Ounces per Acre |
|---|---|----------------|-----------------|
| Common Name   | Scientific Name   |                |                 |
| Barnyardgrass<br>Crabgrass, Large<br>Foxtail, Giant<br>Goosegrass<br>Lovegrass, California<br>Panicums<br>Fall<br>Texas<br>Signalgrass, Broadleaf | <i>Echinochloa crusgalli</i><br><i>Digitaria sanguinalis</i><br><i>Setaria faberi</i><br><i>Eleusine indica</i><br><i>Eragrostis diffusa</i><br><br><i>Panicum dichotomiflorum</i><br><i>Panicum texanum</i><br><i>Brachiaria platyphylla</i> | All Soil Types | 3.5 to 4.2 oz/A |

**Tank Mixes**

Surveil may be tank mixed with the herbicides listed in Table 4 for increased burndown activity, additional residual broadleaf, and/or additional grass control. Refer to tank mix partner's label for adjuvant recommendations.

**Table 4. Tank Mix Partners for Control of Emerged Weeds in Reduced Tillage Soybeans**

| Tank Mix Partner  | Target Weeds <sup>1</sup>   |
|---|---|
| Gramoxone® Inteon, Gramoxone SL, other paraquat products <sup>2</sup> | <ul style="list-style-type: none"> <li>• General Burndown</li> <li>• Henbit</li> </ul>                      |
| Durango DMA, other glyphosate products                                | <ul style="list-style-type: none"> <li>• General Burndown</li> </ul>  |
| Liberty®  | <ul style="list-style-type: none"> <li>• General Burndown</li> </ul>  |
| 2,4-D LVE   | <ul style="list-style-type: none"> <li>• Marestalk</li> <li>• Giant Ragweed</li> <li>• Dandelion</li> </ul> |
| Dicamba   | <ul style="list-style-type: none"> <li>• Marestalk</li> <li>• Giant Ragweed</li> <li>• Dandelion</li> </ul> |

<sup>1</sup>Refer to tank mix product labels for specific recommendations for control of emerged weeds present.

<sup>2</sup>Please refer to the specific mixing order instructions for paraquat products in the Mixing Instructions portion of the label.

**Additional Residual Broadleaf Control**

Surveil can be tank mixed with metribuzin for additional broadleaf control.

**Additional Residual Grass Control**

Surveil can be tank mixed with pendimethalin or clomazone for additional grass control.

Tank mixes with Group 15 herbicides, such as acetochlor (Warrant™), alachlor (Intro®, Micro-Tech®), flufenacet (Axiom®, Domain®), metolachlor (Boundary®, Dual® Magnum, Dual® II Magnum), dimethenamid-P (Outlook®), or pyroxasulfone (Zidua®), may result in severe injury to soybeans when application is followed by prolonged periods of cool, wet weather. These tank mixes should not be used with Surveil, unless supplemental labeling or product bulletins, provided by Dow AgroSciences, are followed.

**Read tank mix product label for rates and weeds controlled. Always read and follow label directions for all tank mix products before using. The most restrictive labeling of any tank mix product must be followed. Surveil, when applied according to label use directions, will control the weeds listed in Table 2. This label makes no claims concerning control of other weed species.**

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**Revisions:**

1. Corrected product name Surveil from Surveil Co-Pack in tables Program 2 and Program 3.