



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 24, 2017

Mr. Edward T. Bockrath
US Registration Specialist
E.I. DuPont de Nemours and Company
Stine-Haskell Research Center
P.O. Box 30
Newark, Delaware 19714-0030

Subject: Label Amendment – Revise the crop rotation section and incorporate general updates and upgrades to the label
Product Name: **DuPont FirstShot SG Herbicide (with Totalsol Soluble Granules)**
EPA Registration Number: 352-755
Application Date: October 31, 2016
Decision Number: 523326

Dear Mr. Bockrath:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Eleanor Thornton by phone at 703-305-6799, or via email at Thornton.eleanor@epa.gov.



Shaja B. Joyner, Product Manager 20
Fungicide-Herbicide Branch
Registration Division 7505P

Enclosure

ACCEPTED

02/24/2017

Under the Federal Insecticide, Fungicide, and Herbicide Act as amended, for the pesticide registered under EPA Reg. No. 352-755



DuPont™ FirstShot® SG

BURNDOWN HERBICIDE (WITH TOTALSOL® SOLUBLE GRANULES)

GROUP	2	HERBICIDE
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Active Ingredients	By Weight
Thifensulfuron-methyl Methyl 3-[[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino]carbonyl]amino]sulfonyl]-2-thiophenecarboxylate	25%
Tribenuron-methyl Methyl 2-[[[[(N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)methylamino]carbonyl]amino]sulfonyl]benzoate	25%
Other Ingredients	50%
TOTAL	100%

EPA Reg. No. 352-755

EPA Est. No. _____

Nonrefillable Container

Net: _____

OR

Refillable Container

Net: _____

KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

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 1-800-441-3637 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. For medical emergencies involving this product, call toll free 1-800-441-3637.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical Resistant Gloves (such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber) ≥14 mls.
- 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. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

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

DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

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

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

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 (such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber) \geq 14 mls.

Shoes plus socks.

DuPont™ FIRSTSHOT® SG burndown herbicide (with TOTALSOL® soluble granules), also referred to below as FIRSTSHOT® SG or DuPont™ FIRSTSHOT® SG, must be used in accordance with the directions for use on this label; in separately issued labeling or exemptions under FIFRA (Supplemental Labels; Special Local Need Registrations; FIFRA Section 18 exemptions); or as otherwise permitted by FIFRA. Always read the entire label including the Limitation of Warranty and Liability.

PRODUCT INFORMATION

FIRSTSHOT® SG herbicide is a water soluble granule that is used for postemergence burndown weed control in the fallow period prior to planting. The best control is obtained when FIRSTSHOT® SG is applied to young, actively growing weeds. Rate selection should be based on weed spectrum and infestation intensity, weed size at application, environmental conditions at and following treatment and tank mix partners.

FIRSTSHOT® SG is noncorrosive, nonflammable, nonvolatile, and does not freeze. FIRSTSHOT® SG should be completely dissolved in water and applied as a uniform broadcast spray.

PESTICIDE HANDLING

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Ensure that all operation employees accurately measure pesticides.
- Mix only enough product for the job at hand.
- Avoid overfilling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field, grove, or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates or uses.
- Avoid storage of pesticides near well sites.
- When triple-rinsing the pesticide container, be sure to add the rinsate to the spray mix.

RESTRICTIONS

- Do not use in season on any crop. FIRSTSHOT® SG burndown herbicide (with TOTALSOL® soluble granules) is only registered as a burndown treatment prior to planting.
- Do not graze livestock in treated areas. In addition, do not feed forage or hay from treated areas to livestock (harvested straw may be used for bedding and/or feed).

Injury to or loss of adjacent sensitive crops, desirable trees or vegetation may result from failure to observe the following:

- Do not apply, drain or flush equipment on or near desirable trees or other plants or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray to desirable plants.

PRECAUTIONS

- Dry, dusty field conditions may result in reduced control in wheel track areas.

Injury to or loss of adjacent sensitive crops, desirable trees or vegetation may result from failure to observe the following:

- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than wheat, barley, triticale or oat.

WEED RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. See the Weeds Controlled section of this label for additional information on managing herbicide resistant weed biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

INTEGRATED PEST MANAGEMENT

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

DuPont™ FIRSTSHOT® SG is absorbed primarily through the foliage of plants, rapidly inhibiting the growth of susceptible weeds. One to 3 weeks after application to weeds (2 to 5 weeks for wild garlic), leaves of susceptible plants appear chlorotic, and the growing point subsequently dies.

The herbicidal action of FIRSTSHOT® SG may be affected from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions or cultural practices. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. In addition, weeds hardened-off by drought stress are less susceptible to FIRSTSHOT® SG.

WEEDS CONTROLLED

DuPont™ FIRSTSHOT® SG effectively controls the following weeds when used according to label directions:

Annual knawel	Marshelder
Annual sowthistle	Mayweed chamomile
Black mustard	Miners lettuce
Blue/Purple mustard	Narrowleaf lambsquarters
Broadleaf dock	Nightflowering catchfly
Bur buttercup	Pennsylvania smartweed
Bushy wallflower/ Treachle mustard	Pineappleweed
Carolina geranium	Prickly lettuce ‡
Clasping pepperweed	Prostrate knotweed
Coast fiddleneck	Prostrate pigweed
Common buckwheat	Redmaids
Common chickweed	Redroot pigweed
Common cocklebur *	Scentless chamomile/ mayweed
Common groundsel	Shepherd's-purse
Common lambsquarters	Slimleaf lambsquarters
Common radish	Smallflower buttercup
Common ragweed *	Smallseed falseflax
Common sunflower	Stinking chickweed
Corn chamomile	Stinking mayweed/ dogfennel
Corn spurry	Swinecress
Cowcockle	Tansymustard
Cress (mouse-ear)	Tarweed fiddleneck
Curly dock	Tumble/ Jim Hill mustard
False chamomile	Volunteer lentils
Field chickweed	Volunteer peas
Field pennycress	Volunteer sunflower
Filaree (redstem, Texas)	Wild chamomile
Flixweed	Wild garlic*
Green smartweed	Wild mustard
Henbit *	Wild radish*
Ladysthumb	
London rocket	

WEEDS PARTIALLY CONTROLLED**

FIRSTSHOT® SG partially controls the following weeds when used according to label directions:

Catchweed bedstraw	Marestail*
Cutleaf eveningprimrose*	Nightshade (cutleaf, hairy)
Mallow (common, little)	Vetch* (common, hairy)

* See SPECIFIC WEED PROBLEMS for more information.

**Partial control: A visual reduction of weed population as well as a significant loss of vigor. For better results, use the highest directed rate of FIRSTSHOT® SG per acre and include a tank mix partner such as 2,4-D, a dicamba containing product, or a glyphosate containing product.

‡ Naturally occurring resistant biotypes of prickly lettuce, marestail and mayweed spp. are known to occur. See the Resistance section of this label for additional details.

USE RATE

Apply 0.5 to 0.8 oz FIRSTSHOT® SG burndown herbicide (with TOTALSOL® soluble granules) per acre as a burndown treatment to control emerged weeds prior to planting.

When applying 0.5 to 0.6 oz per acre, FIRSTSHOT® SG must be used in combination with another registered burndown herbicide (see TANK MIXTURES).

Use the 0.8 ounce per acre rate when weed infestation is heavy or when application timing and environmental conditions are marginal.

Sequential treatments of FIRSTSHOT® SG may be made provided the total amount of FIRSTSHOT® SG does not exceed 1.0 ounce per acre per year. Allow at least 30 days between applications. For example, 0.5 ounce in the fall followed by 0.5 ounce in the spring.

SPRAY ADJUVANTS

Always include a spray adjuvant with applications of FIRSTSHOT® SG. Glyphosate products differ in their adjuvant contents, see the manufacturers specific surfactant recommendations.

Consult your Ag dealer or applicator, local DuPont fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with FIRSTSHOT® SG, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40CFR 1001).

Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)

· Apply at 1% volume/volume (1 gal per 100 gal spray solution) or 2% volume/volume under arid conditions.

- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.

Nonionic Surfactant (NIS)

- Apply 0.25 to 0.50% volume/volume (2 pt to 4 pt per 100 gal of spray solution).
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

Ammonium Nitrogen Fertilizer

In addition to a spray adjuvant, an ammonium nitrogen fertilizer may be used. Use 2 qt/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS). Use 4 qt/acre UAN or 4 lb/acre AMS under arid conditions.

TANK MIXTURES

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

DuPont™ FIRSTSHOT® SG may be used as a pre-plant burndown treatment alone or tank mixed with one or more herbicides registered for pre-plant burndown, such as 2,4-D ester, dicamba products like "Banvel"/"Clarity", glyphosate containing products such as ABUNDIT® Edge, glufosinate and paraquat.

Read and follow all manufacturer's label instructions for the companion herbicide. If those instructions conflict with this label, follow the most restrictive labeling (such as planting interval after application), or do not tank mix the herbicide with FIRSTSHOT® SG.

SPECIFIC WEED PROBLEMS

Applications of FIRSTSHOT® SG alone may not provide adequate control of certain problem weeds. Acceptable control of these species can be achieved by tankmixing FIRSTSHOT® SG with one or more herbicides labeled for burndown applications.

Common cocklebur, common ragweed, cutleaf eveningprimrose, marestail, prickly lettuce, vetches (common, hairy), wild garlic, wild radish: For control use FIRSTSHOT® SG 0.6-0.8 ounce per acre in combination with 2,4-D ester 0.5-1.0 lb active ingredient per acre or dicamba (Banvel/Clarity) 0.25 lb active ingredient per acre. The addition of glyphosate, paraquat, or Ignite to the above recommended tankmixes will improve control of many species. If glyphosate-resistant marestail or common ragweed is known or suspected to be present, use the highest specified rate of dicamba or 2,4-D ester in glyphosate tankmixes.

Carolina geranium, henbit: For control apply FIRSTSHOT® SG 0.6-0.8 ounce per acre in combination with glyphosate, paraquat, or Ignite. The addition of 2,4-D ester 0.5-1.0 lb active ingredient per acre or dicamba (Banvel/Clarity) 0.25 lb active ingredient per acre may improve control of heavy populations, stressed weeds, and larger weeds.

When preplant intervals for hormone products (dicamba and 2,4-D ester) preclude their use in FIRSTSHOT® SG combinations for control of problem weeds, apply FIRSTSHOT® SG 0.6-0.8 ounce per acre tankmixed with glyphosate, paraquat or Ignite to achieve control or suppression of these species.

CROP ROTATION

Labeled crops may be planted at specified time intervals following application of labeled rates of FIRSTSHOT® SG burndown herbicide. Use the time intervals listed below to determine the required time interval before planting.

Time Interval Before Planting*(days after treatment with FIRSTSHOT® SG)

Crop	Days
Barley, Rice**, Triticale, and Wheat (including durum)	0
Soybeans	7†
Cotton, Field Corn, and Grain Sorghum	14
Peanuts (Alabama & Georgia Only)	30
Any other crop	45

* Refer to individual product labels to determine rotational crop restrictions when tank mixtures are used.

**When FIRSTSHOT® SG is applied at 0.5 oz/a the application may be made prior to or immediately after planting but prior to rice emergence.

†When FIRSTSHOT® SG is applied at 0.5 oz/a the application may be made within 3 days after planting but prior to soybean emergence.

Where FIRSTSHOT® SG is used on light textured soils, such as sands, loamy sands and sandy loams, extend time to planting by 7 additional days.

Where FIRSTSHOT® SG is used on high pH soils (>7.9), extend time to planting by 7 additional days.

APPLICATION INFORMATION

PRODUCT MEASUREMENT

DuPont™ FIRSTSHOT® SG burndown herbicide (with TOTALSOL® soluble granules) is measured using the FIRSTSHOT® SG volumetric measuring cylinder. The degree of accuracy of this cylinder varies by $\pm 7.5\%$. For more precise measurement, use scales calibrated in ounces.

MIXING INSTRUCTIONS

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of FIRSTSHOT® SG
3. Continue agitation until the FIRSTSHOT® SG is fully dissolved, at least 5 minutes.
4. Once the FIRSTSHOT® SG is fully dissolved, maintain agitation and continue filling tank with water.
5. As the tank is filling, add tank mix partners (if desired) then add the required volume of nonionic surfactant. Always add surfactant last. Do not use with spray additives that alter the pH of the spray solution below pH 5.0 or above pH 9.0, as rapid product degradation can occur. Spray solutions of pH 6.0-8.0 allow for optimum stability of FIRSTSHOT® SG.
6. Dispersed tank mix partners can settle if the tank mixture is not continually agitated. If settling occurs, thoroughly re-agitate before using.
7. Apply FIRSTSHOT® SG spray mixture within 24 hours of mixing to avoid product degradation.
8. If FIRSTSHOT® SG and a tank mix partner are to be applied in multiple loads, fully dissolve the FIRSTSHOT® SG in clean water either in the spray tank or a separate mixing tank prior to adding the tank mix partner.

GROUND APPLICATION

For optimum spray distribution and thorough coverage, use flat-fan or low-volume flood nozzles.

For flat-fan nozzles, use a spray volume of at least 5 gal per acre (GPA).

For flood nozzles on 30" spacings, use at least 10 GPA, flood nozzles no larger than TK10 (or the equivalent), and a pressure of at least 30 psi. For 40" nozzle spacings, use at least 13 GPA; for 60" spacings use at least 20 GPA. It is essential to overlap the nozzles 100% for all spacings.

"Raindrop RA" and air induction nozzles are not recommended for FIRSTSHOT® SG applications, as weed control performance may be reduced.

Use screens that are 50-mesh or larger.

AERIAL APPLICATION

Use nozzle types and arrangements that provide optimum spray distribution and maximum coverage at 5 GPA.

See the **Spray Drift Management** section of this label.

SPRAY EQUIPMENT

For specific application equipment, refer to the manufacturer's recommendations for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc.

Be sure to calibrate air or ground equipment properly before application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern with minimum drift. Use higher spray volumes to obtain better coverage when crop canopy is dense. Avoid swath overlapping, and shut off spray booms while starting, turning, slowing, or stopping, to avoid injury to the crop.

Do not make applications using equipment and/or spray volumes or during weather conditions that might cause spray to drift onto nontarget sites. For additional information on spray drift refer to Spray Drift Management section of label.

The spray equipment must be cleaned before FIRSTSHOT® SG is sprayed. Follow the cleanup procedures specified on the labels of the previously applied products.

AT THE END OF THE DAY

It is recommended that during periods when multiple loads of FIRSTSHOT® SG herbicide are applied, at the end of each day of spraying the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits which can accumulate in the application equipment.

AFTER SPRAYING FIRSTSHOT® SG AND BEFORE SPRAYING CROPS

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of FIRSTSHOT® SG as follows:

1. Empty the tank and drain the sump completely.
2. Spray the tank walls with clean water using a minimum volume of 10% of the tank volume. Circulate the water through the lines, including all by-pass lines, for at least two minutes. Flush the boom well and empty the sprayer. Completely drain the sump.
3. Repeat step 2.

4. Remove the nozzles and screens and clean separately in a bucket containing water.

The rinsate solution may be applied in preplant application recommended on this label. Do not exceed the maximum-labeled use rate. If cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

Notes:

1. Always start with a clean spray tank.
2. Steam-cleaning aerial spray tanks is recommended to facilitate the removal of any caked deposits.
3. When DuPont™ FIRSTSHOT® SG is tank mixed with other pesticides, all cleanout procedures for each product should be examined and the most rigorous procedure should be followed.
4. In addition to this cleanout procedure, all pre-cleanout guidelines on subsequently applied products should be followed as per the individual labels.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply the largest droplets which are consistent with pest control objectives. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage.

Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provide a Standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMD's and lower drift potential.

Controlling Droplet Size

- **Nozzle Type** - Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** - The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- **Flow Rate/Orifice Size** - Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

Controlling Droplet Size - Aircraft

- **Nozzle Type** - Solid stream, or other low drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles** - Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- **Nozzle Orientation** - Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the air stream will produce a coarser droplet spectrum than other orientations.
- **Pressure** - Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

BOOM HEIGHT (AIRCRAFT) AND APPLICATION HEIGHT

- **Boom Length (aircraft)** - Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- **Application Height (aircraft)** - Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- **Application Height (ground)** - Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.

WIND

Drift potential is lowest when applications are made in light to gentle sustained winds (2-10 mph), which are blowing in a constant direction. Many factors, including droplet size and equipment type also determine drift potential at any given wind speed.

Note: Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential.

Droplet evaporation is most severe when conditions are both hot and dry.

SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind.

They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion.

If neither is present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the spray equipment section of this label to determine if use of an air assist sprayer is recommended.

SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effect of spray drift.

DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution.

Preferred drift control additives have been certified by the Chemical Producers and Distributors Association (CPDA).

STORAGE AND DISPOSAL

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

Pesticide Storage: Store product in original container only. Store in a cool, dry place.

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: Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds):

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners: Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

Refillable Fiber Drums With Liners: Refillable container (fiber drum only). *Refilling Fiber Drum:* Refill this fiber drum with DuPont™ FIRSTSHOT® SG burndown herbicide (with TotalSol® soluble granules) containing thifensulfuron methyl and tribenuron methyl only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. *Disposing of Fiber Drum and/or Liner:* Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

All Other Refillable Containers: Refillable container. *Refilling Container:* Refill this container with DuPont™ FIRSTSHOT® SG burndown herbicide (with TotalSol® soluble granules) containing thifensulfuron methyl and tribenuron methyl only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact DuPont at the number below for instructions. *Disposing of Container:* Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

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