

## Supplemental Label

# Engenia™

## Herbicide

### For use in Dicamba-tolerant Soybeans

This supplemental label expires December 20, 2018, and must not be used or distributed after this date.

#### Active Ingredient\*:

N,N-Bis-(3-aminopropyl)methylamine salt of 3,6-dichloro-*o*-anisic acid ..... 60.8%

Other Ingredients:..... 39.2%

Total:..... 100.0%

\* Contains 48.38% dicamba (5 pounds acid equivalent per gallon or 600 grams per liter)

#### EPA Reg. No. 7969-345

#### CAUTION/PRECAUCION

### Directions For Use

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- The supplemental labeling and the entire **Engenia™ herbicide** container label, EPA Reg. No. 7969-345, must be in possession of the user at the time of application.
- Read the label affixed to the container for **Engenia** before applying.
- Use of **Engenia** according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container for **Engenia**.

### Dicamba-tolerant (DT) Soybeans Specific Information

The following use directions for **Engenia** use in DT soybeans are specific for **Engenia** use in DT soybeans and may differ significantly from the use directions for **Engenia** in conventional crops.

Depending on specific crop application directions, **Engenia** may be applied for postemergence control of emerged broadleaf weeds and/or residual control of germinating broadleaf weed seeds before crop planting (preplant and/or preseed) and after planting (preemergence, postemergence). Refer to **Table 1** in the product container label for list of weeds controlled or suppressed.

**Engenia** may be applied preplant, at-planting, pre-emergence, and postemergence (in-crop) for weed control in DT soybeans.

### Resistance Management

While weed resistance to **Group 4** herbicides is infrequent, populations of resistant biotypes are known to exist. Resistance management should be part of a diversified weed control strategy that integrates multiple options including chemical, cultural, and mechanical (tillage) control tactics. Cultural control tactics include crop rotation, proper fertilizer placement, optimum seeding rate/row spacing, and timely tillage.

To aid in the prevention of developing weeds resistant to this product, the following steps should be followed where practical:

- Start clean with tillage or an effective burndown herbicide program.
- **DO NOT** rely on a single herbicide site of action for weed control during the growing season.
- Scout fields before application to ensure herbicides and rates will be appropriate for the weed species and weed sizes present.
- Apply full rates of **Engenia** for the most difficult-to-control weed in the field at the specified time (correct weed size) to minimize weed escapes.

- Use of preemergence herbicides that provide soil residual control of broadleaf and grass weeds is recommended to reduce early season weed competition and allow for more timely in-crop postemergence herbicide applications.
- Avoid application of herbicides with the same site of action more than twice a season.
- Scout fields after application to detect weed escapes or shifts in weed species.
- Report any incidence of non-performance of this product against a particular weed species to your BASF retailer, representative or online at [www.Non-Performance.BASF.US](http://www.Non-Performance.BASF.US).
- If resistance is suspected, treat weed escapes with a herbicide having a mode of action other than **Group 4** and/or use non-chemical methods to remove escapes, as is practical, with the goal of preventing further seed production.
- For more information about weeds that are known to be resistant to dicamba go to [www.Resistance-Information.BASF.US](http://www.Resistance-Information.BASF.US).

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

- Use a broad spectrum soil-applied herbicide with other modes of action as a foundation in a weed control program.
- Utilize sequential applications of herbicides with alternative modes of action.
- Rotate the use of this product with non-**Group 4** herbicides.
- Avoid making more than two applications of **Engenia™ herbicide** and any other **Group 4** herbicides within a single growing season unless mixed with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- Incorporate non-chemical weed control practices, such as mechanical cultivation, crop rotation, cover crops and weed-free crop seeds, as part of an integrated weed control program.
- Thoroughly clean plant residues from equipment before leaving fields suspected to contain resistant weeds.
- Manage weeds in and around fields during and after harvest to reduce weed seed production.
- Contact the local agricultural extension service, BASF representative, ag retailer or crop consultant for further guidance on weed control practices as needed.

## Application Instructions

**Engenia** is EPA approved for use in DT crops in the following states, subject to county restrictions as noted: Alabama, Arizona, Arkansas, Colorado, Delaware, Florida (excluding Palm Beach County), Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana,

Maryland, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee (excluding Wilson County), Texas, Virginia, West Virginia, Wisconsin.

## Application Restrictions

- **DO NOT** apply this product aerially.
- **DO NOT** apply **Engenia** if rain is expected within four (4) hours after application.

## Tank Mix Instructions

**Engenia** may only be tank-mixed with products that have been tested and found by the EPA not to have an unreasonable adverse effect on the spray drift properties of **Engenia**. A list of those EPA approved products may be found at [www.engeniatankmix.com](http://www.engeniatankmix.com). **DO NOT** tank mix any product with **Engenia** unless:

1. You check the list of EPA approved products for use with **Engenia** at [www.engeniatankmix.com](http://www.engeniatankmix.com) no more than 7 days before applying **Engenia**; and
2. The intended product tank-mix with **Engenia** is identified on that list of tested and approved products; and
3. The intended product to be tank-mixed with **Engenia** is not prohibited on this label.
4. Additional Warnings and Restrictions:
  - Some COC, HSOC and MSO adjuvants may cause a temporary crop response.
  - **DO NOT** tank mix products containing ammonium salts such as ammonium sulfate and urea ammonium nitrate.
  - **DO NOT** add adjuvants that will further decrease pH or acidify the spray solution.
  - Drift reduction agents listed on the website above can minimize the percentage of driftable fines. However, the applicator must check with the DRA manufacturer to determine if the approved DRA will work effectively with the spray nozzle, the spray pressure, and the desired spray solution.

For an up to date and complete list of approved tank mix options with **Engenia**, please visit [www.engeniatankmix.com](http://www.engeniatankmix.com).

## APPLICATION EQUIPMENT AND TECHNIQUES

### **DO NOT APPLY THIS PRODUCT TO DT SOYBEANS USING AERIAL SPRAY EQUIPMENT.**

Apply this product using properly maintained and calibrated equipment capable of delivering the desired volumes.

## Spray Drift Management

**DO NOT** allow herbicide solution to mist, drip, drift, or splash onto desirable vegetation because severe injury or destruction to desirable broadleaf plants could result. The following drift management requirements must be followed.

### Controlling Droplet Size

Drift potential may be reduced by applying large droplets that provide sufficient coverage and control. Applying larger droplets can reduce drift potential, but will not prevent drift if the application is made improperly, or under unfavorable environmental conditions (see the **Temperature Inversions** and the **Wind Speed** sections in the product container label).

- **Nozzle Type** - Use the **Turbo TeeJet®** TTI11004 nozzle when applying **Engenia™** herbicide. **DO NOT** use any other nozzle unless specifically allowed by label. Only specific nozzle and spray mixture combinations may be applied. To find a list of approved nozzle and spray mixture combinations visit [www.engeniatankmix.com](http://www.engeniatankmix.com) no more than seven days prior to applying **Engenia**.
- **Pressure** - **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 (large orifice) nozzles instead of increasing pressure. Ensure sprayer rate controller hardware (if so equipped) does not allow pressure increases above the desired range.
- **Spray Volume** - Apply this product in a minimum of 10 gallons of spray solution per acre. Use a higher spray volume when treating dense vegetation. Higher spray volumes may also allow the use of larger nozzle orifices (sizes) which produce coarser spray droplets.
- **Equipment Ground Speed** - Select a ground speed that will deliver the desired spray volume while maintaining the desired spray pressure, but **DO NOT** exceed a ground speed of 15 miles per hour. Slower speeds generally result in better spray coverage and deposition on the target area.
- **Spray Boom Height** - Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but **DO NOT** exceed a boom height of 24 inches above target pest or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.

## Wind Speed and Direction

- Drift potential is lowest between wind speeds of 3 to 10 miles per hour.
- **DO NOT** apply at wind speeds greater than 15 mph.
- For **Engenia** wind speed and direction restrictions see table below:

### Wind Speed Application Conditions and Restrictions

Wind Speed	Application conditions and restrictions
< 3 mph	Only apply <b>Engenia</b> if steps have been taken to confirm that a temperature inversion is not present (see <b>Temperature Inversions</b> section in the product container label).
3 to 10 mph	Optimum <b>Engenia</b> application conditions provided all other application requirements in this label are met.
> 10 to 15 mph	<b>DO NOT</b> apply <b>Engenia</b> when wind is blowing toward neighboring sensitive crops.
> 15 mph	<b>DO NOT</b> apply <b>Engenia</b> .

**NOTE:** Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

### Temperature Inversions

**DO NOT** make applications of **Engenia** when temperature inversions exist at the field level. Temperature inversions increase drift potential because fine droplets may remain suspended in the air longer after application. Suspended droplets can move in unpredictable directions because of the light, variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light-to-no wind.

Inversions begin to form as the sun sets and often continue into the morning before surface warming. Their presence can be indicated by ground fog, smoke not rising, dust hanging over a road, or presence of dew or frost. Smoke that layers and moves laterally (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Inversion conditions typically dissipate with increased winds (above 3 MPH) or when surface air begins to warm (3° F from morning low).

## Sensitive Areas

Maintain a 110 foot buffer when applying this product from the downwind outer edges of the field, less the distance of any of the adjacent areas specified below.

### To maintain the required buffer zone:

- No application swath containing **Engenia™ herbicide** can be initiated in, or into an area that is within the applicable buffer distance.
- The following areas may be included in the buffer distance calculation when adjacent to field edges:
  1. Roads, paved or gravel surfaces.
  2. Agricultural fields that have been prepared for planting.
  3. Planted agricultural fields containing asparagus, corn, DT cotton, DT soybeans, sorghum, proso millet, small grains and sugarcane.
  4. Areas covered by the footprint of a building, shade house, silo, feed crib, or other man made structure with walls and or roof.

**Non-target Susceptible Plants:** Restrictions and precautions for the protection of non-target susceptible plants.

- **DO NOT** apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.
- **DO NOT** allow contact of herbicide with foliage, green stems, exposed non-woody roots of crops, and desirable plants.
- **DO NOT** apply when wind is blowing in the direction of neighboring specialty crops.

In addition to the required 110 foot down wind spray buffer, additional protections are required for dicamba sensitive specialty crops. **DO NOT** apply when wind is blowing in the direction of neighboring specialty crops. Specialty crops include, but are not limited to, tomatoes and other fruiting vegetables (EPA **Crop Group 8**), cucurbits (EPA **Crop Group 9**), peas, potato, tobacco, flowers, fruit trees, grapes, ornamentals, including greenhouse and shade house grown broadleaf plants.

Small amounts of spray drift that may not be visible may injure susceptible broadleaf plants. Applicators are required to ensure that they are aware of the proximity to sensitive areas, and to avoid potential adverse effects from off-target movement of **Engenia**. Before making an application, the applicator must survey the application site for neighboring sensitive areas. The applicator must also consult sensitive crop registries to locate nearby sensitive areas where available.

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

The interaction of equipment and weather related factors must be monitored to maximize performance and on-target spray deposition. The applicator is responsible for considering all of these factors when making a spray decision. The applicator is responsible for compliance with state and local pesticide drift regulations.

## Use Information

**Engenia** may be applied preplant surface, preemergence, or postemergence (over the top) to control or suppress many annual, biennial, and perennial broadleaf weeds (see **Table 1** in the product container label) in dicamba-tolerant (DT) soybean. If **Engenia** is applied to non-dicamba-tolerant soybean other than as directed, severe crop injury will result. For non-dicamba-tolerant soybean information, see **Soybean (non-dicamba-tolerant)** section in **Crop-specific Information** section in the product container label.

## Application Rates and Timings

### Maximum Application Rates in DT Soybean

Application Timing	Amount (fl ozs/A)
<b>Single Preplant, Preemergence, and Postemergence</b>	12.8 (0.5 lb dicamba ae/A)
<b>All Applications Combined Total per Season</b>	51.2 (2 lbs dicamba ae/A)
<b>Total Preplant and Preemergence</b>	25.6 (1 lb dicamba ae/A)
<b>Total Postemergence</b>	25.6 (2 lbs dicamba ae/A)

Application of **Engenia** plus recommended adjuvants (refer to **Tank Mixtures with Spray Adjuvants** section in the product container label for details) may be made before and after soybean emergence. Separate sequential applications by 7 days or more. For best performance, apply **Engenia** when weeds are less than 4 inches in height and rosettes are less than 2-inches across. Timely application will improve control and reduce weed competition. Apply preplant, preemergence, and postemergence to DT soybean only by ground.

## Preplant and Preemergence Applications

**Engenia™ herbicide** can be applied at 12.8 fl ozs/A before, during, or after planting dicamba-tolerant soybean. **Engenia** will provide burndown of emerged weeds and moderate residual activity. Apply as a sequential application with other labeled herbicides to control emerged grass weeds and other broadleaf weeds, and with a preemergence residual herbicide to control germinating weed seeds. Early season weed control is critical for minimizing weed competition and protecting crop yield potential.

## Postemergence Applications

Up to two postemergence applications using 12.8 fl ozs/A of **Engenia** per application may be made from soybean emergence up to and including beginning bloom (R1 growth stage of soybeans). However, **DO NOT** apply more than a maximum cumulative total of 25.6 fl ozs/A of **Engenia** postemergence.

**Engenia** applications should be made to small (less than 4-inches tall), actively growing weeds. Sequential postemergence applications may be necessary to control new weed flushes. For best results, apply **Engenia** in a herbicide program that includes sequential application of herbicides with a different mechanism of action to control new weed growth.

Postemergence applications of **Engenia** may cause dicamba-tolerant soybeans to wilt or droop shortly after application. Symptomology is transient, and soybeans recover quickly after application.

## Use with Other Herbicides

Broad-spectrum control of grass weeds or additional broadleaf weeds may require a sequential herbicide application. **Engenia** may be applied sequentially with one or more of, but not limited to, the following herbicide products:

- **Optill® powered by Kixor® herbicide**
- **Outlook® herbicide**
- **Prowl® H2O herbicide**
- **Pursuit® herbicide**
- **Raptor® herbicide**
- **Sharpen® powered by Kixor® herbicide**
- **Varisto® herbicide**
- **Verdict® powered by Kixor® herbicide**
- **Zidua® herbicide**
- **Zidua® PRO powered by Kixor® herbicide**
- clethodim (e.g. **Select Max® herbicide**)
- glyphosate (e.g. **Roundup® herbicide**)

## DT Soybean Restrictions

- **DO NOT** apply **Engenia** to non-dicamba-tolerant soybean varieties other than as directed or severe soybean injury will occur; refer to **Soybean (non-dicamba-tolerant)** section in **Crop-specific Information** section in the product container label.
- Apply **Engenia** preplant, preemergence, and postemergence by ground only.
- **DO NOT** apply **Engenia** to soybeans after first bloom (R1).
- **DO NOT** apply **Engenia** with ammonium-containing additives, conditioners, or fertilizers (e.g. AMS, UAN).
- Use caution when tank mixing **Engenia** with approved emulsifiable concentrates (EC) or oil-based products that may increase the potential for crop injury.
- Allow at least 7 days between final application and harvest or feeding of soybean forage.
- Allow at least 14 days between final application and harvest or feeding of soybean hay.

## Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

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