RESTRICTED USE PESTICIDE

For retail sale to and use only by Certified Applicators. To be used by certified applicators only; NOT to be used by uncertified persons working under the supervision of a certified applicator, except that uncertified persons may transport containers.

This EPA registration expires [month] [date], [year], **DO NOT** use or distribute this product after [month] [date], [year].

BASF

We create chemistry

Dicamba	Group	4	Herbicide

Engenia®

Herbicide

For weed control in Dicamba-tolerant (DT) cotton†; Dicamba-tolerant (DT) soybean†

† Only for use in states listed as US EPA approved in the **Dicamba-tolerant (DT) Crops**.

Active Ingredient*:

dicamba: 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-XXX **EPA Est. No.**

KEEP OUT OF REACH OF CHILDREN

CAUTION/PRECAUCION

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

See full label for complete **First Aid**, **Precautionary Statements**, **Directions For Use**, **Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

FIRST AID	
If swallowed	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • **DO NOT** induce vomiting unless told to do so by a poison control center or doctor. • **DO NOT** give anything by mouth to an unconscious person.
If inhaled	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if swallowed or inhaled. Avoid breathing vapor or spray mist. Remove and wash contaminated clothing before reuse. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

All mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves
- A NIOSH-approved dust/mist filtering respirator with any R, P, or HE filter. Examples include a filtering facepiece respirator with approval number prefix TC-84A and an R or P designation, or a full-face or half-mask respirator with R, P, or HE cartridges.

See **Engineering Controls** for additional requirements. Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

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

USER SAFETY RECOMMENDATIONS

Users should:

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

Environmental Hazards

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate. Apply this product only as directed on the label.

This chemical is known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Ground and Surface Water Protection

Point-source Contamination

To prevent point-source contamination, **DO NOT** mix or load this pesticide product within 50 feet of wells (including abandoned wells and drainage wells), sinkholes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. **DO NOT** apply pesticide product within 50 feet of wells. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas as described below.

Mixing, loading, rinsing, or washing operations performed within 50 feet of a well are allowed only when conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be on or move across the pad. The pad must be self-contained to prevent surface water flow over or from the pad. The pad capacity must be

maintained at 110% that of the largest pesticide container or application equipment used on the pad and have sufficient capacity to contain all product spills, equipment or container leaks, equipment washwater, and rainwater that may fall on the pad. The containment capacity does not apply to vehicles delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Care must be taken when using this product to prevent:
- Back-siphoning into wells
- Spills
- Improper disposal of excess pesticide, spray mixtures, or rinsate

Check valves or antisiphoning devices must be used on all mixing equipment.

Movement by Surface Runoff or Through Soil

DO NOT apply under conditions which favor runoff.
DO NOT apply if soil is saturated with water or when rainfall that may exceed soil field capacity is forecast to occur within 48 hours.

Under some conditions, dicamba has the potential for runoff several days after application. Poorly draining, wet, or erodible soils with readily visible slopes toward adjacent sensitive areas are more prone to produce runoff. When used on erodible soils, best management practices for minimizing runoff should be employed. Consult your local Soil Conservation Service for recommendations in your use area.

DO NOT apply to impervious substrates such as paved or highly compacted surfaces in areas with high potential for groundwater contamination. Groundwater contamination may occur in areas where soils are permeable or coarse and groundwater is near the surface. **DO NOT** apply to soils classified as sand with less than 3% organic matter and where groundwater depth is shallow. To minimize the possibility of groundwater contamination, carefully follow the specified rates as affected by soil type in the **Crop-specific Information** section of this label.

Movement by Water Erosion of Treated Soil

Ensure treated areas have received at least 1/2-inch rainfall (or irrigation) before using tailwater for subsequent irrigation of other fields.

DO NOT apply this product through any type of irrigation system including sprinkler, drip, flood, or furrow irrigation.

Endangered Species

It is a Federal offense to use any pesticide in a manner that results in the death of an endangered species.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of federal law. Use of this product may pose a hazard to endangered or threatened species. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult **http://www.epa.gov/espp/** or call 1-844-447-3813. You must use the Bulletin valid for the month in which you will apply the product. Please Note: Additional endangered or threatened species obligations are listed under **Endangered Species** on this label. See **Crop-specific Information – Dicamba-tolerant (DT) Crops** section for more details regarding protection of endangered species.

Directions For Use

RESTRICTED USE PESTICIDE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the user's possession during application. To be used by certified applicators only; NOT to be used by uncertified persons working under the supervision of a certified applicator, except that uncertified persons may transport containers.

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.

Observe all precautions, restrictions, and limitations in this label and the labels of products used in combination with this product. Keep containers closed to avoid spills and contamination.

All applicable directions, restrictions, precautions, and **Conditions of Sale and Warranty** are to be followed.

RESTRICTED USE PESTICIDE

RECORD KEEPING REQUIREMENTS

Users must keep the following records for a period of two years; records must be generated within 72 hours after application and a record must be kept for every individual application. Records must be made available to State Pesticide Control Official(s), USDA, and EPA upon request. The following information must be recorded and kept as required by the Federal Pesticide Record Keeping Program, 7 CFR Part 110:

1. **Full name of the certified applicator**
2. **Certification number of the certified applicator**
3. **Product name**
4. **EPA registration number**
5. **Total amount applied of this product**
6. **Application month, day, and year**
7. **Crop planting date**
8. **Start and Finish Times:** the time the applicator begins and the time the applicator completes applications of this product.
9. **Location of the application**
10. **Crop or site receiving the application**
11. **Size of area treated**

(continued)

RESTRICTED USE PESTICIDE

RECORD KEEPING REQUIREMENTS

(continued)

12. **Training Requirement:** proof that the applicator completed dicamba-specific training described in this section.
13. **Application Timing:** whether the applicator applied this product preemergence or, the number of days after planting if the applicator applied this product postemergence.
14. **Receipts of purchase:** receipts for the purchase of this product, and for the purchase of the required pH buffering agent and any required drift reduction agent.
15. **Product Label:** a copy of this product label(s), and any state special local needs label that supplements this label.
16. **Sensitive Areas, Sensitive Crops, and Residential Awareness (**see **Treatment Zone Awareness and Buffer Requirements (Sensitive Areas, Sensitive Crops and Residential Areas)):** Document/record that the applicator checked an applicable sensitive crop/specialty crop registry; and document that the applicator surveyed all neighboring fields for any sensitive areas, sensitive crops, or residential areas surrounding the field prior to application. At a minimum, records must include the date the applicator consulted the sensitive crop registry/specialty crop registry and the date the applicator surveyed within 240 feet per **Treatment Zone Awareness and Buffer Requirements (Sensitive Areas, Sensitive Crops and Residential Areas)** neighboring fields, and the name of the sensitive crop registry/specialty crop registry the applicator consulted.
17. **Spray Buffer Requirement:** Record of the 240 foot buffer distance determination and any areas included within the buffer distance determination.
18. **Spray System Cleanout:** Document that the applicator complied with the section of this label titled: "**Spray System Equipment Clean-out**". At a minimum, records must include the date the applicator performed the required cleanout, and cleanout method that the applicator followed.
19. **Tank Mix Products:** a list of all products (pesticides, adjuvants, and other products) that the applicator tank mixed with this product for each application. Include EPA registration numbers in the case of any pesticides.
20. **Required Tank Mix Buffering Agent:** list the Buffering Agent and use rate that was tank mixed with **Engenia® herbicide**.
21. **Nozzle Selection:** which spray nozzle the applicator used to apply this product, and the nozzle pressure the applicator set the sprayer to.

(continued)

RESTRICTED USE PESTICIDE

RECORD KEEPING REQUIREMENTS

(continued)

22. **Air Temperature:** the air temperature at boom height at the time the applicator starts and finishes applications of this product.
23. **Wind Speed and Direction:** the wind speed at boom height at the time the applicator starts and finishes applications of this product, and the wind direction at the time the applicator starts and finishes applications of this product.

Training Requirements

Prior to applying this product, all applicators must complete dicamba-specific training on an annual basis; NOT to be used by uncertified persons working under the supervision of a certified applicator, except that uncertified persons may transport containers. If training is available and required by the state where the applicator intends to apply this product, the applicator must complete that training before applying this product in-crop. If your state does not require auxin or dicamba-specific training, then the applicator must complete dicamba or auxin-specific training provided by one of the following sources: a) a registrant of a dicamba product approved for in-crop use with dicamba-tolerant crops, or b) a state or state-authorized provider.

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 intervals. The requirements in this box only apply to uses of this product that are covered by the WPS.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **24 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 worn over short-sleeved shirt and short pants
- Chemical-resistant footwear plus socks
- Waterproof gloves
- Chemical-resistant headgear for overhead exposure
- Protective eyewear

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage

Store in original container in a well-ventilated area separately from fertilizer, feed, and foodstuffs. Avoid cross-contamination with other pesticides. **Engenia® herbicide** freezes around 15° F and is stable under conditions of freezing and thawing. Product that has been frozen should be thawed and recirculated prior to use.

Pesticide Disposal

Wastes resulting from this product must be disposed of on-site or at an approved waste disposal facility. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state or local procedures under **Subtitle C** of the **Resource Conservation and Recovery Act**. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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.

Triple rinse containers too large to shake (capacity > 5 gallons) 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.

(continued)

STORAGE AND DISPOSAL *(continued)*

Container Handling *(continued)*

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. 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 Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Steps to take if material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Product Information

Engenia® herbicide is a water-soluble herbicide that provides postemergence and moderate rate-dependent residual control of many annual broadleaf weeds. **Engenia** is also active on many biennial and perennial broadleaf weeds as well as woody brush and vines (refer to **Table 1** for weeds controlled or suppressed).

Engenia may be applied preplant, at-planting, preemergence, and postemergence (in-crop) for weed control in dicamba-tolerant cotton and dicamba-tolerant soybeans. The use in dicamba-tolerant crops is only allowed in the following states:

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.

Additional state restrictions and requirements may apply. The applicator must comply with any additional state requirements and restrictions.

Engenia does not control grass weeds and must be used sequentially or tank mixed with a grass herbicide for a complete weed control program. See **Tank Mixing Information** section for important information on herbicide tank mixes or **Crop-specific Information** section(s) for recommendations on sequential programs.

Summary of Label Requirements – See Label Section for Details

Label Requirements Summary	Label Sections
Mandatory Training: • Prior to applying, applicator must complete dicamba-specific training. Only certified applicators may apply this product.	• **Training Requirements**
Record Keeping: • Certified applicators must complete their application records within 72 hour after the application and keep records for a period of two years.	• **Restricted Use Pesticide Record Keeping Requirements**
Application: • For EVERY application of **Engenia® herbicide** an approved **pH Buffering Agent** must be included in the spray mixture. Refer to **www.engeniatankmix.com** for a list of approved pH Buffering Agents. • Rate and Timing: Apply 12.8 fl ozs per acre (0.5 lb. ae dicamba) for any single application: - Applications to DT Cotton may occur through July 30. A total of four applications (51.2 fl ozs per acre) may be made with a maximum of 12.8 fl ozs per acre per application. - Applications to DT Soybean may occur through June 30. A total of four applications (51.2 fl ozs per acre) may be made with a maximum of 12.8 fl ozs per acre per application. - For details see crop-specific use directions. • Spray volume: Apply in a minimum of 15 gallons of spray solution per acre. • Tank mixing: Use only approved tank-mix products found at **www.engeniatankmix.com**. - Refer to all product labels to determine mix order or perform a mix compatibility test.	• **Tank Mixing Information** • **Specific Use Directions** • **Dicamba Tolerant (DT) Cotton** • **Dicamba Tolerant (DT) Soybean** • **Specific Crop Use Directions** • **Application Methods and Equipment** • **Tank Mixing Information**
Application Equipment: • Spray system equipment cleanout: Ensure entire sprayer system is properly cleaned before and after application. • Nozzles: Use only approved nozzles and pressure as listed on **www.engeniatankmix.com**. • Spray boom height: Use manufacturer's recommendation for boom height or 24 inches above the target pest/crop height, whichever is smaller. • Ground speed: **DO NOT** exceed 15 mph.	• **Spray System Equipment Cleanout** • **Spray Drift Management**
Environmental Conditions: • Wind speed: Apply when wind speed, measured at boom height, is 3 to 10 mph when using broadcast open-boom equipment. • Inversions: **DO NOT** spray during an inversion; only spray between one hour after sunrise and two hours before sunset. • Temperature/humidity: When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation. • Rainfall: **DO NOT** apply this product if rain that may exceed soil field capacity and result in soil runoff is expected in the next 48 hours.	• **Spray Drift Management** • **Use Restrictions**
Downwind Requirements: • Sensitive areas, crops and residential areas downwind: **DO NOT** apply if sensitive areas, crops and residential areas, as defined in this label (see **Treatment Zone Awareness and Buffer Requirements (Sensitive Areas, Sensitive Crops and Residential Areas)**), are neighboring downwind to the application site. • Downwind buffer: After determining that no sensitive areas, crops or residential areas are neighboring downwind, maintain a 240-ft downwind spray buffer.	• **Treatment Zone Awareness and Buffer Requirements (Sensitive Areas, Sensitive Crops and Residential Areas)**
Endangered Species: • You must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult **http://www.epa.gov/espp/** or call 1-844-447-3813. You must use the Bulletin valid for the month in which you will apply the product.	• **Endangered Species**

Table 1. Weeds Controlled or Suppressed

Engenia® herbicide will control or suppress the following weeds when used at rates described in **Table 2**. See additional information about weeds which are known to be resistant to dicamba at www.Resistance-Information.BASF.US.

Common Name	Scientific Name
Annuals	
Alkanet	*Lithospermum arvense*
Amaranth, Palmer	*Amaranthus palmeri*
Amaranth, Powell	*Amaranthus powellii*
Amaranth, spiny	*Amaranthus spinosus*
Aster, slender	*Aster subulatus*
Bedstraw, catchweed	*Galium aparine*
Beggarweed, Florida	*Desmodium tortuosum*
Broomweed, common	*Gutierrezia dracunculoides*
Buckwheat, tartary	*Fagopyrum tataricum*
Buckwheat, wild	*Polygonum convolvulus*
Buffalobur	*Solanum rostratum*
Burclover, California	*Medicago polymorpha*
Burcucumber	*Sicyos angulatus*
Buttercup, corn	*Ranunculus arvensis*
Buttercup, creeping	*Ranunculus repens*
Buttercup, roughseed	*Ranunculus muricatus*
Buttercup, western field	*Ranunculus occidentalis*
Carpetweed	*Mollugo verticillata*
Catchfly, nightflowering	*Silene noctiflorum*
Chamomile, corn	*Anthemis arvensis*
Chervil, bur	*Anthriscus caucalis*
Chickweed, common	*Stellaria media*
Clover	*Trifolium* spp.
Cockle, corn	*Agrostemma githago*
Cockle, cow	*Vaccaria pyramidata*
Cocklebur, common	*Xanthium strumarium*
Copperleaf, hophornbeam	*Acalypha ostryifolia*
Cornflower	*Centaurea cyanus*
Croton, tropic	*Croton glandulosus*
Croton, woolly	*Croton capitatus*
Daisy, English	*Bellis perennis*
Dragonhead, American	*Dracocephalum parviflorum*
Eveningprimrose, cutleaf	*Oenothera laciniata*
Falseflax, smallseed	*Camelina microcarpa*

(continued)

Table 1. Weeds Controlled or Suppressed *(continued)*

Common Name	Scientific Name
Annuals *(continued)*	
Fleabane, hairy	*Conyza bonariensis*
Flixweed	*Descurainia sophia*
Fumitory	*Fumaria officinalis*
Goosefoot, nettleleaf	*Chenopodium murale*
Hempnettle	*Galeopsis tetrahit*
Henbit	*Lamium amplexicaule*
Horseweed (Marestail)	*Conyza canadensis*
Jacob's-ladder	*Polemonium caeruleum*
Jimsonweed	*Datura stramonium*
Knawel (German moss)	*Scleranthus annuus*
Knotweed, prostrate	*Polygonum aviculare*
Kochia[2]	*Kochia scoparia*
Ladysthumb	*Polygonum persicaria*
Lambsquarters, common	*Chenopodium album*
Lettuce, miner's	*Claytonia perfoliata*
Lettuce, prickly	*Lactuca serriola*
Mallow, common	*Malva neglecta*
Mallow, Venice	*Hibiscus trionum*
Mayweed	*Anthemis cotula*
Morningglory, ivyleaf	*Ipomoea hederacea*
Morningglory, tall	*Ipomoea purpurea*
Mustard, black	*Brassica nigra*
Mustard, blue	*Chorispora tenella*
Mustard, tansy	*Descurainia pinnata*
Mustard, treacle	*Erysimum repandum*
Mustard, tumble	*Sisymbrium altissimum*
Mustard, wild	*Sinapis arvensis*
Mustard, yellowtop	*Sinapis* spp.
Nightshade, black	*Solanum nigrum*
Nightshade, cutleaf	*Solanum triflorum*
Pennycress, field	*Thlaspi arvense*
Pepperweed, Virginia	*Lepidium virginicum*
Pigweed, prostrate	*Amaranthus blitoides*
Pigweed, redroot (rough)	*Amaranthus retroflexus*
Pigweed, smooth	*Amaranthus hybridus*
Pigweed, tumble	*Amaranthus albus*
Pineappleweed	*Matricaria matricarioides*
Poorjoe	*Diodia teres*
Poppy, red horn	*Glaucium corniculatum*

(continued)

Table 1. Weeds Controlled or Suppressed *(continued)*

Common Name	Scientific Name
Annuals *(continued)*	
Puncturevine	*Tribulus terrestris*
Purslane, common	*Portulaca oleracea*
Pusley, Florida	*Richardia scabra*
Radish, wild	*Raphanus raphanistrum*
Ragweed, common	*Ambrosia artemisiifolia*
Ragweed, giant	*Ambrosia trifida*
Ragweed, lanceleaf	*Ambrosia bidentata*
Rocket, London	*Sisymbrium irio*
Rocket, yellow	*Barbarea vulgaris*
Rubberweed, bitter	*Hymenoxys odorata*
Salsify	*Tragopogon porrifolius*
Senna, coffee	*Senna occidentalis*
Sesbania, hemp	*Sesbania exaltata*
Shepherd's purse	*Capsella bursa-pastoris*
Sicklepod	*Cassia obtusifolia*
Sida, prickly (Teaweed)	*Sida spinosa*
Smartweed, green	*Polygonum scabrum*
Smartweed, Pennsylvania	*Polygonum pensylvanicum*
Sneezeweed, bitter	*Helenium amarum*
Sowthistle, annual	*Sonchus oleraceus*
Sowthistle, spiny	*Sonchus asper*
Spanish needles	*Bidens bipinnata*
Spikeweed, common	*Hemizonia pungens*
Spurge, prostrate	*Chamaesyce humistrata*
Spurry, corn	*Spergula arvensis*
Starbur, bristly	*Acanthospermum hispidum*
Starwort, little	*Stellaria graminea*
Sumpweed, rough	*Iva ciliata*
Sunflower, common (wild)	*Helianthus annuus*
Thistle, Russian	*Salsola iberica*
Velvetleaf	*Abutilon theophrasti*
Waterhemp	*Amaranthus tuberculatus*
Waterprimrose, winged	*Ludwigia decurrens*
Wormwood	*Artemisia annua*
Biennials	
Burdock, common	*Arctium minus*
Carrot, wild	*Daucus carota*
Cockle, white	*Melandrium album*

(continued)

Table 1. Weeds Controlled or Suppressed *(continued)*

Common Name	Scientific Name
Biennials *(continued)*	
Eveningprimrose, common	*Oenothera biennis*
Geranium, Carolina	*Geranium carolinianum*
Gromwell	*Lithospermum* spp.
Knapweed, diffuse	*Centaurea diffusa*
Knapweed, spotted	*Centaurea maculosa*
Mallow, dwarf	*Malva borealis*
Plantain, bracted	*Plantago aristata*
Ragwort, tansy	*Senecio jacobaea*
Starthistle, yellow	*Centaurea solstitialis*
Sweetclover	*Melilotus* spp.
Teasel	*Dipsacus sativus*
Thistle, bull	*Cirsium vulgare*
Thistle, musk	*Carduus nutans*
Thistle, plumeless	*Carduus acanthoides*
Thistle, variegated (milk)	*Silybum marianum*
Perennials[1]	
Alfalfa	*Medicago sativa*
Apple, tropical soda	*Solanum viarum*
Artichoke, Jerusalem	*Helianthus tuberosus*
Aster, spiny	*Aster spinosus*
Aster, whiteheath	*Aster pilosus*
Bedstraw, smooth	*Gallium mollugo*
Bindweed, field	*Convolvulus arvensis*
Bindweed, hedge	*Calystegia sepium*
Blueweed, Texas	*Helianthus ciliaris*
Bursage, woollyleaf	*Ambrosia grayi*
Buttercup, tall	*Ranunculus acris*
Campion, bladder	*Silene vulgaris*
Chickweed, field	*Cerastium arvense*
Chickweed, mouseear	*Cerastium vulgatum*
Chicory	*Cichorium intybus*
Clover, hop	*Trifolium aureum*
Dandelion, common	*Taraxacum officinale*
Dock, broadleaf (Bitterdock)	*Rumex obtusifolius*
Dock, curly	*Rumex crispus*
Dogbane, hemp	*Apocynum cannabinum*
Dogfennel (Cypressweed)	*Eupatorium capillifolium*
Fern, bracken	*Pteridium aquilinum*

(continued)

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Table 1. Weeds Controlled or Suppressed *(continued)*

Common Name	Scientific Name
Perennials[1] *(continued)*	
Garlic, wild	*Allium vineale*
Goldenrod, Canada	*Solidago canadensis*
Goldenrod, Missouri	*Solidago missouriensis*
Goldenweed, common	*Isocoma coronopifolia*
Hawkweed	*Hieracium* spp.
Henbane, black	*Hyoscyamus niger*
Horsenettle, Carolina	*Solanum carolinense*
Ironweed	*Vernonia* spp.
Knapweed, black	*Centaurea nigra*
Knapweed, Russian	*Centaurea repens*
Lespedeza, sericea	*Lespedeza cuneata*
Milkweed, climbing	*Sarcostemma cyanchoides*
Milkweed, common	*Asclepias syriaca*
Milkweed, honeyvine	*Ampelamus albidus*
Milkweed, western whorled	*Asclepias subverticillata*
Nettle, stinging	*Urtica dioica*
Nightshade, silverleaf	*Solanum elaeagnifolium*
Onion, wild	*Allium canadense*
Plantain, broadleaf	*Plantago major*
Plantain, buckhorn	*Plantago lanceolata*
Pokeweed	*Phytolacca americana*
Ragweed, western	*Ambrosia psilostachya*
Redvine	*Brunnichia ovata*
Smartweed, swamp	*Polygonum coccineum*
Snakeweed, broom	*Gutierrezia sarothrae*
Sorrel, red (Sheep sorrel)	*Rumex acetosella*
Sowthistle, perennial	*Sonchus arvensis*
Spurge, leafy	*Euphorbia esula*
Sundrop	*Oenothera perennis*
Thistle, Canada	*Cirsium arvense*
Thistle, Scotch	*Onopordum acanthium*
Toadflax, Dalmatian	*Linaria genistifolia*
Trumpetcreeper	*Campsis radicans*
Vetch	*Vicia* spp.
Waterhemlock, spotted	*Cicuta maculata*
Waterprimrose, creeping	*Ludwigia peploides*
Woodsorrel, creeping	*Oxalis corniculata*
Woodsorrel, yellow	*Oxalis stricta*

(continued)

Table 1. Weeds Controlled or Suppressed *(continued)*

Common Name	Scientific Name
Perennials[1] *(continued)*	
Wormwood, Louisiana	*Artemisia ludoviciana*
Yankeeweed	*Eupatorium compositifolium*
Yarrow, common	*Achillea millefolium*

[1] Suppression only.
[2] Except dicamba resistant.

Product Stewardship Recommendations

- Apply **Engenia® herbicide** to weeds 4 inches or less in size for best performance.
- Apply **Engenia** at the labeled rate to minimize the likelihood of weed resistance occurring. See **Crop-specific Information** for labeled rates by crop.
- Use **Engenia** as part of a herbicide program that includes the use of residual herbicides and herbicides with alternate sites of action to reduce resistance selection pressure.

Product Stewardship Requirements

- Select only EPA-approved nozzles that produce **extremely coarse to ultra-coarse** spray droplets. See **www.engeniatankmix.com** for the list of nozzles approved for use with this product.
- Use manufacturer's recommendation for boom height or 24 inches above the target pest/crop height, whichever is smaller.
- Identify areas of sensitive nontarget crops/plants and maintain proper setback distance from these areas (see **Treatment Zone Awareness and Buffer Requirements (Sensitive Areas, Sensitive Crops and Residential Areas)** section for **Spray Buffer** requirements).
  Sensitive crops in agricultural and/or residential settings can include, but are not limited to:
  - non-DT soybeans
  - cucumber and melons (EPA **Crop Group 9**)
  - flowers
  - fruit trees
  - grapes
  - ornamentals including greenhouse-grown and shade house-grown broadleaf plants
  - peanuts
  - peas and beans (EPA **Crop Group 6**)
  - peppers, tomatoes, and other fruiting vegetables (EPA **Crop Group 8**)
  - potato
  - sweet potato
  - tobacco
- Thoroughly clean spray equipment before and after application.

Mode of Action

Dicamba, the active ingredient in **Engenia**, is a **Group 4** (WSSA) herbicide. Herbicides in this group mimic auxin (a plant hormone) resulting in a hormone imbalance in

sensitive plants that interferes with normal plant growth (e.g. cell division, cell enlargement, and protein synthesis). **Engenia® herbicide** is readily absorbed by leaves, roots, and shoots; translocates throughout the plant; and accumulates in areas of active growth to provide postemergence control of emerged weeds as well as moderate residual control of germinating weed seeds.

Any weed population may contain plants naturally resistant to **Group 4** herbicides. Weeds resistant to **Group 4** herbicides may be effectively managed using herbicide(s) from a different group and/or by using cultural or mechanical practices. Report any incidence of non-performance of this product against a particular weed species at **www.EngeniaQuestions.com**. Consult your local BASF representative, state cooperative extension service, professional consultants, or other qualified authority to determine appropriate actions if you suspect resistant weeds. Additional information about weeds which are known to be resistant to dicamba can be found at www.Resistance-Information.BASF.US.

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 labeled rates of **Engenia** for the most difficult-to-control weed in the field at the specified time (correct weed size) to minimize weed escapes. See **Crop-specific Information** for labeled rates by crop.
- 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.
- Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species.
- Report any incidence of non-performance of this product against a particular weed species to your BASF retailer, representative or online at **www.EngeniaQuestions.com**.
- 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.

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** 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 and after 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.

Crop Tolerance

Crops growing under normal environmental conditions are tolerant to **Engenia** when applied according to label directions. Crop injury may occur under stressful growing conditions (e.g. low soil fertility, seedling disease, extreme hot or cold weather, excessive moisture, high soil pH, high soil salt concentration, drought).

Application Instructions

Apply **Engenia** by ground to actively growing weeds as a band or broadcast spray application for postemergence control of emerged weeds as well as moderate residual control of germinating weed seeds.

Make postemergence applications of **Engenia** when broadleaf weeds are small and actively growing. An adjuvant is recommended with **Engenia** for best postemergence activity; refer to **Tank Mixing Information** section and **Crop-specific Information** sections for details. Postemergence activity may be slowed or reduced under cloudy and/or foggy or cooler weather conditions, or when weeds are growing under drought or other stress conditions. When

targeting dense weed populations and/or larger broadleaf weeds, use higher spray volumes and a higher application rate within an application rate range.

Cultivation should be delayed until 7 days after applying **Engenia® herbicide** or a reduction in weed control may occur.

Use extreme care when applying **Engenia** to prevent injury to desirable plants. **Engenia** may cause injury to desirable sensitive plants when contacting their roots, stems, or foliage.

Application Rates

Always read and follow crop-specific use directions.

Table 2. Application Rate to Control or Suppress Target Weed by Weed Type and Growth Stage for Non-DT Use Sites

(See **Crop-specific Information** section for additional directions and exceptions)

Weed Type and Growth Stage	Rate/Acre[2,4] (fl ozs)
Annual	
Small, actively growing[1] (less than 4-inches tall)	3.2 to 12.8
Small, actively growing (less than 4-inches tall) plus moderate residual control	12.8
Biennial	
Rosette diameter 1 to 3 inches[1]	6.4 to 12.8
Rosette diameter more than 3 inches	12.8
Perennial[3]	
Top growth suppression	6.4 to 12.8
Top growth control and root suppression	12.8

[1] Although rates below 12.8 fl ozs/A **(refer to crop-specific sections of the label for minimum use rates)** may provide adequate control of annual and biennial weeds, for optimum performance use the higher listed rates or apply the lower listed rate as a tank mix with other herbicides that are effective on the same species and biotype.
[2] Use the higher rate within listed ranges when treating weeds resistant to other sites of action, dense vegetative growth, or weeds with a well-established root system. The higher rates also provide moderate residual annual weed control.
[3] **Engenia** will suppress the top growth of herbaceous perennials and can be combined with other approved herbicides to improve control.
[4] **DO NOT** broadcast-apply more than 12.8 fl ozs/A per application. Retreatment or tank mixes may be necessary for best control of some weeds. However, sequential applications must not exceed a maximum cumulative total of 51.2 fl ozs/A of **Engenia** (2 lbs dicamba ae/A) per year.

Application Methods and Equipment

Apply **Engenia** by ground. Thorough spray coverage is important for best broadleaf weed control and can be improved with adjuvant, nozzle, and spray volume selection.

Calibrate application equipment for accurate target spray volume and application rate to ensure uniform distribution of spray and to avoid spray drift to nontarget areas. Adjust equipment to maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above the labeled use rates.

Engenia may be applied using water; consult crop-specific information sections of this label for other spray carrier options.

Ground Application

Banding Applications

When applying **Engenia** by banding, use the following formula to calculate the amount of herbicide and water volume needed:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast rate per acre} = \text{Banding herbicide rate per acre}$$

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{Broadcast volume per acre} = \text{Banding water volume per acre}$$

Broadcast Applications

Use a spray volume of 15 gallons of water or more per treated acre. Thorough coverage of existing vegetation is essential for postemergence applications; higher spray volumes may be necessary for optimum performance.

Spray System Equipment Clean-out

The applicator must ensure that the spray system used to apply **Engenia** is clean before application. Severe crop injury may occur if any **Engenia** remains in the spray equipment following application and is subsequently applied to sensitive crops. Additionally, residual small quantities of ammonium sulfate (AMS) can increase the volatility potential of **Engenia**. After using **Engenia**, clean all mixing and spray equipment (including tanks, pumps, lines, filters, screens, and nozzles) with a strong detergent based sprayer cleaner. Dispose of rinsate in compliance with local, state, and federal guidelines.

1. After spraying, drain the sprayer (including boom and lines). Avoid allowing the spray solution to remain in the spray boom lines overnight or for extended periods of time.
2. Flush tank, hoses, boom, and nozzles with clean water. Open boom ends and flush if so equipped.
3. Inspect and clean all strainers, screens, and filters.
4. Use commercial sprayer cleaner containing strong detergents according to the manufacturer's directions.
5. Wash all parts of the tank, including the inside top surface. Start agitation in the sprayer and thoroughly recirculate the cleaning solution for at least 15 minutes.

All visible deposits must be removed from the spraying system.

6. Flush hoses, spray lines, and nozzles with the cleaning solution for at least 1 minute. Remove nozzles, screens, and strainers, and clean separately in the cleaning solution after completing the above procedure.
7. Drain pump, filter, and lines.
8. Rinse the complete spraying system with clean water.
9. Clean and rinse the exterior of the sprayer.
10. Appropriately dispose of all rinsate in compliance with local, state, and federal requirements.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The spray system and weather-related factors determine the potential for spray drift. The applicator is responsible for considering these factors when making application decisions to avoid spray drift onto nontarget areas.

Applicators must follow application requirements to avoid spray drift hazards, including those found in this labeling and applicable state and local regulations and ordinances. Where states have more stringent regulations, they must be observed.

All application equipment must be properly maintained and calibrated using appropriate carriers.

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

Controlling Droplets

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 and Direction Requirements** sections).

- **Nozzle Type** - Use only approved nozzles when applying **Engenia® herbicide**. To find a list of approved nozzles visit **www.engeniatankmix.com** no more than seven days prior to applying **Engenia**.
- **Pressure** - **DO NOT** exceed the nozzle manufacturer's specified pressures or maximum pressures as listed for specific nozzles on **www.engeniatankmix.com**. 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 15 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. It is recommended that ground speed be reduced to 5 miles per hour when making applications to the edge of the treatment area.
- **Spray Boom Height** - Use manufacturer's recommendation for boom height or 24 inches above the target pest/crop height, whichever is smaller. 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.
- **Hooded Spray Booms** - Hooded spray booms are another tool that can be used to minimize spray drift potential. **Engenia** may be applied using a hooded spray boom in combination with approved nozzles; however, the applicator must ensure the configuration is compatible with equipment used.

Temperature Inversions

- **DO NOT** apply **Engenia** when temperature inversions exist at the field level.
- **Apply only during the following period: DO NOT** make applications at night. Applications are only permitted beginning one hour after sunrise, and ending two hours before sunset.

Temperature inversions increase drift potential by reducing atmospheric mixing and dispersion of any suspended spray mixture. Suspended spray residues 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).

Treatment Zone Awareness and Buffer Requirements (Sensitive Areas, Sensitive Crops and Residential Areas)

Downwind Spray Buffer Areas

Engenia® herbicide should only be applied when there is low potential for drift to sensitive areas (see **Definitions**). It is best to apply when the wind is blowing away from sensitive areas.

Spray Buffer Requirement: Applicator must always maintain a 240 foot buffer when applying this product from the downwind outer edges of the field.

To maintain the required buffer zone:

- No application swath containing **Engenia** can be initiated in, or into an area that is within the applicable buffer distance.
- **Nonsensitive Crops and Areas** (see **Definitions**) - May be included in the buffer distance calculation when within 240 feet of field edges.

Sensitive Crops and Residential Areas

- **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.
- During application and sprayer clean-out, **DO NOT** allow contact of herbicide with foliage, green stems, exposed non-woody roots of crops, and desirable plants.
- **Downwind and Shifting Winds**
  - **DO NOT** apply when wind is blowing in the direction of neighboring sensitive crops or residential areas.
  - The applicator also must be aware that **WIND DIRECTION** may vary during the application. If wind direction shifts such that the wind is blowing toward neighboring sensitive crops or residential areas, **STOP** the application.

Survey the area before spraying: Small amounts of spray drift that may not be visible may injure sensitive broadleaf plants. Before making an application, the applicator must survey the application site for neighboring sensitive crops and residential areas. **The applicator must consult sensitive crop registries where available.** Refer to **Sensitive Crops Awareness** section for record keeping requirements within the **RESTRICTED USE PESTICIDE RECORD KEEPING REQUIREMENTS** section.

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.

Definitions

- **Sensitive Areas** - Bodies of water and nonresidential, uncultivated areas that may harbor sensitive plant species.
- **Sensitive Crops and Residential Areas** - Food, forage, or other plantings grown for sale, use or consumption. Sensitive crops/plants also can be present in nonagricultural settings, such as residential areas. Examples include, but are not limited to:
  - non-DT soybeans
  - cucumber and melons (EPA **Crop Group 9**)
  - flowers
  - fruit trees
  - grapes
  - ornamentals including greenhouse-grown and shade house-grown broadleaf plants
  - peanuts
  - peas and beans (EPA **Crop Group 6**)
  - peppers, tomatoes, and other fruiting vegetables (EPA **Crop Group 8**)
  - potato
  - sweet potato
  - tobacco

  Severe injury or destruction could occur if any contact between this product and these crops/plants occurs. See www.driftwatch.org or other sensitive crop registry websites for more information on possible sensitive sites near your application location.
- **Nonsensitive Crops and Areas**
  1. Roads, paved or gravel surfaces, mowed and/or managed areas adjacent to field, such as roadside rights-of-way.
  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. If the applicator intends to include such crops as dicamba tolerant cotton and/or dicamba tolerant soybeans in the buffer distance calculation, the applicator must confirm the crops are in fact dicamba tolerant.
  4. Areas covered by the footprint of a building, shade house, silo, feed crib, or other man-made structure with walls and or roof.

Additional restrictions for the protection of specific sensitive areas may be required when making applications to DT cotton and DT soybeans. Use of this product may pose a hazard to endangered or threatened species. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. To obtain Bulletins, no more than six months before using this product, consult **http://www.epa.gov/espp/** or call 1-844-447-3813. You must use the Bulletin valid for the month in which you will apply the product. Please Note: Additional endangered or threatened species obligations are listed under **Endangered Species** on this label. See **Crop-specific Information – Dicamba-tolerant**

(DT) Crops section for more details regarding protection of endangered species.

Wind Speed and Direction Requirements

- **Wind Speed** - 3 to 10 mph
- **Wind Direction** - Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

Tank Mixing Information

Engenia® herbicide 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**. **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** 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:
   - **Mandatory Use** of an approved pH buffering agent product and use rate, such as Sentris™ Buffering Technology is required. A list of EPA approved pH buffering agents may be found at **www.engeniatankmix.com**.
   - 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 (UAN) unless specifically approved for use with **Engenia** at **www.engeniatankmix.com**.
   - Hard water does not usually affect the activity of **Engenia**. Use of an approved conditioning agent should be considered when hard water (i.e. total calcium, magnesium, and iron content above 500 ppm) is used as a spray carrier.
   - 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**, visit **www.engeniatankmix.com**.

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.

Mixing **Engenia** with postemergence grass (graminicide) herbicides may reduce the effectiveness of those products. Follow graminicide label when mixing with **Engenia** to ensure optimum weed control. Physical incompatibility, reduced weed control, or crop injury may result from mixing **Engenia** with other pesticides, additives, nutritionals, etc.

Adjuvants. BASF recommends the use of quality adjuvants with **Engenia** such as **Astonish™**, **Class Act® Ridion®**, **Grounded®**, **Iconic®**, **Jackhammer™ Elite**, **R-11®**, **Strike Force®**, and **Verifact**.

Compatibility Test for Mix Components

Before mixing components, always perform a compatibility jar test.

1. For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.
2. Add components in the sequence indicated in the following **Mixing Order** instructions using 2 teaspoons for each pound or 1 teaspoon for each pint of labeled use rate per acre.
3. Cap the jar and invert 10 cycles between component additions.
4. When the components have all been added to the jar, let the solution stand for 15 minutes.
5. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface; fine particles that precipitate to the bottom; or thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, **DO NOT** mix the ingredients in the same tank.

Mixing Order

Make sure each component is thoroughly mixed and suspended before adding tank mix partners. Except when mixing products in PVA bags, maintain constant agitation during mixing and application.

1. **Water** - Begin by agitating a thoroughly clean sprayer tank 1/2 to 3/4 full of clean water.
2. **Inductor** - If an inductor is used, rinse it thoroughly after each component has been added.
3. **Products in PVA bags** - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. **Water-soluble products and additives (Engenia**, Sentris**)**
5. **Water-dispersible products** (such as dry flowables, wettable powders, suspension concentrates, or suspo-emulsions)
6. **Emulsifiable concentrates** (including NIS and oil concentrate)
7. Remaining quantity of water

Maintain continuous and constant agitation throughout mixing and application until spraying is completed. If the spray mixture is allowed to settle for any period of time, thorough

agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

Use Precautions

- **Stress** - Application to crops under stress because of lack of moisture, hail damage, flooding, herbicide injury, mechanical injury, or widely fluctuating temperatures may result in crop injury.
- **Rainfast Period** - **Engenia® herbicide** is rainfast 4 hours after application and weed control performance should not be reduced if unexpected rain or unintended irrigation occurs within 4 hours after application.

Use Restrictions

Applicator MUST ALSO follow restrictions under Crop-specific Information section(s).

- **DO NOT** apply more than 25.6 fl ozs/A (1.0 lb dicamba ae/A) preplant and preemergence and 25.6 fl ozs/A (1.0 lb dicamba ae/A) postemergence. **DO NOT** apply more than a total of 51.2 fl ozs/A (2.0 lbs dicamba ae/A) in all applications combined per year.
- **DO NOT** apply this product aerially.
- **DO NOT** apply **Engenia** with ammonium-containing additives, conditioners, or fertilizers (e.g. AMS, UAN). Small quantities of AMS can greatly increase the volatility potential of dicamba.
- **DO NOT** apply **Engenia** if expected rainfall amount may exceed soil field capacity and result in soil runoff in the next 48 hours.
- **DO NOT** apply **Engenia** if wind speed is less than 3 mph or greater than 10 mph.
- **DO NOT** apply **Engenia** at night. **DO NOT** apply earlier than one hour after sunrise or later than two hours before sunset.
- **DO NOT** contaminate irrigation ditches or water used for domestic purposes.
- **DO NOT** apply **Engenia** through any type of irrigation system (e.g. chemigation).
- **DO NOT** tank mix **Engenia** with **Lorsban® insecticide**.
- **DO NOT** tank mix **Engenia** with any product not found in the approved list at www.engeniatankmix.com.
- In DT cotton, **DO NOT** apply **Engenia** later than July 30.
- In DT soybeans, **DO NOT** apply **Engenia** later than June 30.
- The maximum application rate per acre of **Engenia** is 12.8 fl ozs/A. **DO NOT** apply more than 25.6 fl ozs/A (1.0 lb dicamba ae/A) preplant and preemergence and 25.6 fl ozs/A (1.0 lb dicamba ae/A) postemergence. **DO NOT** apply more than a total of 51.2 fl ozs/A (2.0 lbs dicamba ae/A) in all applications combined per year.

Crop Rotation Restrictions

Use the following information to determine the required interval between **Engenia® herbicide** application and rotational crop planting as well as replanting after crop failure because of environmental factors such as drought, frost, or hail. Determine the rotational crop interval for tank mix products and use the most restrictive interval of all products applied.

Table 3. Crop Rotation Restrictions by Application Rate

Crop	**Engenia** (fl ozs/A)		
	≤ 6.4	9.6	12.8
	Rotational Crop Interval[1] (days after application)		
Corn	0	0	0
Cotton, non-DT[2]	21[†]	28	42
Cotton, DT	0	0	0
Sorghum	14	21	28
Soybean, non-DT[2]	14	21	28
Soybean, DT	0	0	0
Grasses[3] 30 inches or more annual precipitation	14	21	28
Grasses[3] less than 30-inches annual precipitation	21	28	42
All other crops	120	120	120

[1] **DO NOT** include time when the soil is frozen and days before receiving any required rainfall or overhead irrigation.
[2] Following application of **Engenia** and a minimum accumulation of 1 inch of rainfall or overhead irrigation, observe the indicated waiting interval.
[3] Includes barley, oats, wheat, and other grass crops. Small grains may be planted with no waiting interval following **Engenia** applied at 3.2 fl ozs/A.
[†] **Missouri and Tennessee Only.** Following application of **Engenia**, wait until an accumulation of 1 inch of rainfall or irrigation followed by an interval of **14 days** per 6.4 fl ozs/A or less before planting cotton. This interval must be observed before planting cotton or severe crop injury may occur.

Dicamba-tolerant (DT) Crops

Engenia® herbicide is EPA approved for use in DT crops in the following states:

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.

Within the above listed states, **Engenia** is subject to area-specific restrictions as required by **http://www.epa.gov/espp/** that must be consulted prior to making an **Engenia** application in DT cotton and DT soybeans. Prior to making an **Engenia** application in DT cotton or DT soybeans, an applicator must visit **http://www.epa.gov/espp/** to determine if there are any additional restrictions on **Engenia** use within the area to be sprayed. Nonsensitive areas defined below may be included as part of the required buffer distance.

Nonsensitive areas - The following areas may be included in the buffer distance calculation when directly adjacent to the treated field edges:

1. Roads, paved or gravel surfaces, mowed and/or managed areas adjacent to field such as rights of way.
2. Planted agricultural fields containing: corn, dicamba tolerant cotton, dicamba tolerant soybean, sorghum, proso millet, small grains and sugarcane. If the applicator intends to include such crops as dicamba tolerant cotton and/or dicamba tolerant soybeans in the buffer distance calculation, the applicator must confirm the crops are in fact dicamba tolerant.
3. Agricultural fields that have been prepared for planting.
4. Areas covered by the footprint of a building, shade house, silo, feed crib, or other man-made structure with walls and or roof.

The following directions are specific for Engenia use in DT cotton and DT soybeans.

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** for list of weeds controlled or suppressed.

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

Dicamba-tolerant (DT) Cotton

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

Cotton gin byproducts may be fed to livestock.

Application Rates and Timings

Maximum Application Rates in DT Cotton

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

Application of **Engenia** may be made before and after cotton emergence. Sequential applications should be separated 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 cotton only by ground. **DO NOT** apply more than 51.2 fl ozs/A of **Engenia** per year (single growing season).

Preplant and Preemergence Applications

Engenia can be applied at 12.8 fl ozs/A before, during, or after planting DT cotton. **Engenia** will provide burndown of emerged weeds. Apply as a sequential application with other preemergence 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

Apply **Engenia® herbicide** postemergence at 12.8 fl ozs/A from cotton emergence through July 30. **DO NOT** apply more than 12.8 fl ozs/A in a single postemergence over-the-top application of **Engenia**. A total of two postemergence applications can be made in cotton.

For best weed control, **Engenia** applications should be made early in the season to small (less than 4-inches tall), actively growing weeds. Sequential postemergence applications may be necessary to control new weed flushes. Allow at least 7 days between applications. **DO NOT** apply **Engenia** postemergence more than twice in a year. Apply **Engenia** in a herbicide program that includes sequential application of herbicides with a different mechanism of action to control new weed regrowth.

Postemergence applications of **Engenia** mixed with some adjuvants may cause injury to DT cotton (see **Tank Mixing Information** section for details). Injury symptoms usually appear as necrotic spots on leaves. Potential for injury may be reduced when applications are made with spray volumes of at least 15 GPA and lower adjuvant rates. Symptomology is temporary with cotton recovering quickly after application.

Use with Other Herbicides

Broad-spectrum control of grass weeds or additional broadleaf weeds may require a sequential herbicide application. Before considering the use of one or more of the below recommended herbicides in a tank mix with **Engenia**, please confirm at www.engeniatankmix.com that the product is on the approved list. **Engenia** may be applied sequentially with one or more of, but not limited to, the following herbicide products:

- **Outlook® herbicide**
- **Prowl® H2O herbicide**
- glyphosate (e.g. **Roundup® herbicide**)

For approved tank mix options see **www.engeniatankmix.com**.

DT Cotton Restrictions

- **DO NOT** apply **Engenia** to non-dicamba-tolerant cotton varieties other than as directed or severe cotton injury will occur; refer to **Cotton** section in **Crop-specific Information** section.
- **DO NOT** make more than two applications preplant or preemergence per year.
- **DO NOT** apply more than 12.8 fl ozs/A (0.5 lb ae/A) per preplant or preemergence application.
- **DO NOT** make more than two applications postemergence per year.
- **DO NOT** apply more than 12.8 fl ozs/A (0.5 lb ae/A) per postemergence application.
- **DO NOT** apply **Engenia** later than July 30.
- **DO NOT** apply more than 51.2 fl ozs/A (2 lbs ae/A) per year.
- Use caution when tank mixing **Engenia** with approved emulsifiable concentrates (EC) or oil-based products that may increase the potential for crop injury.

Dicamba-tolerant (DT) Soybean

Engenia may be applied preplant surface, preemergence, or postemergence (over the top) by ground only to control or suppress many annual, biennial, and perennial broadleaf weeds (see **Table 1**) in dicamba-tolerant (DT) soybean.

Application Rates and Timings

Maximum Application Rates in DT Soybean

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

Application of **Engenia** plus specified adjuvants (refer to **Tank Mixing Information** section for details) may be made before and after soybean emergence. Sequential applications should be separated 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 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® herbicide** per application may be made through June 30. Allow at least 7 days between applications. **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. Before considering the use of one or more of the below recommended herbicides in a tank mix with **Engenia**, please confirm at www.engeniatankmix.com that the product is on the approved list. **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**)

For approved tank mix options see **www.engeniatankmix.com**.

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** section in **Crop-specific Information** section.
- **DO NOT** make more than two applications preplant or preemergence per year.
- **DO NOT** apply more than 12.8 fl ozs/A (0.5 lb ae/A) per preplant or preemergence application.
- **DO NOT** make more than two applications postemergence per year.
- **DO NOT** apply more than 12.8 fl ozs/A (0.5 lb ae/A) per postemergence application.
- **DO NOT** apply **Engenia** later than June 30.
- **DO NOT** apply more than 51.2 fl ozs/A (2 lbs ae/A) per season.
- Use caution when tank mixing **Engenia** with approved emulsifiable concentrates (EC) or oil-based products that may increase the potential for crop injury.
- **Soybean Forage:** Allow at least 7 days between final application and harvest or feeding of soybean forage.
- **Soybean Hay:** 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.

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