

# Supplemental Label



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| GROUP | 14 | HERBICIDE |
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## **RESOURCE<sup>®</sup>** HERBICIDE EPA Reg. No. 59639-82

### **RESOURCE<sup>®</sup> HERBICIDE USE IN SPRING BURNDOWN IN FRONT OF COTTON AND COTTON DEFOLIATION**

#### **DIRECTIONS FOR USE**

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

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

#### **GENERAL INFORMATION**

Do not apply this product through any type of irrigation system.

#### **RESISTANCE MANAGEMENT**

*Resource* is a Group 14 Herbicide. Any weed population may contain or develop plants naturally resistant to herbicides in various mode of action classes. Resistant biotypes may eventually dominate the weed population if the same class of chemistry/mode of action herbicides are used repeatedly in the same field or in successive years. These resistant biotypes may not be adequately controlled by herbicides in a mode of action class for which resistance has developed. A gradual or total loss of weed control may occur over time. Other resistance mechanisms that are not linked to site of action, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

#### **TO DELAY HERBICIDE RESISTANCE**

- Avoid the use of herbicides that have a similar target site mode of action in consecutive years.
- Herbicide use should be based on an Integrated Pest Management (IPM) program that includes scouting, record keeping, and consideration of cultivation practices, water management, weed free crop seed, crop rotation, and other chemical or cultural practices.
- Monitor treated weed population for resistance development and report suspected resistance.
- Contact your local extension or crop expert (advisor) for any additional pesticide resistance management and/or IPM recommendations for specific crops and weed biotypes.
- For further information contact Valent U.S.A. Corporation at the following toll free number 1-800-682-5368.

#### **USE RESTRICTIONS FOR *RESOURCE* APPLIED TO COTTON**

As a broadcast treatment, do not apply more than 8 fl. oz./A of *Resource* in a single application or more than a total of 14 fl oz/A to cotton in a single growing season.

- Do not apply *Resource* if rain is expected within 1 hour of application.
- Do not graze animals on green forage or use as feed fewer than 28 days after *Resource* application.

#### **GROUND APPLICATION**

Apply *Resource* and *Resource* tank mixes with ground equipment using standard commercial sprayers. Thorough coverage is required for optimal burndown or defoliation. Special attention should be given to preparing and operating the spray equipment to assure proper coverage of leaf surfaces, when using *Resource*. Avoid the use of air induction nozzles.

Use *Resource* on a broadcast basis in a minimum of 10 gals. of water per acre and a spray pressure of 40 to 50 PSI measured at the spray nozzle. For best results, use a minimum of 15 to 20 GPA of water and a spray pressure of 50 PSI, measured at the nozzle if cotton density is moderate to heavy.

## **AERIAL APPLICATION**

To obtain satisfactory performance with aerial application of *Resource*, use as part of a labeled tank mix. Uniform coverage must be obtained. To obtain satisfactory application and avoid drift, the following directions must be observed:

- Do not apply more than 8 fl oz/A by air in a single application.

### **Carrier Volume and Spray Pressure**

Use *Resource* in 7 to 10 gals/A of water for spring burndown programs. Use *Resource* in 5 to 10 gals/A of water for defoliation. Application at less than recommended volume may provide inadequate results. The higher gallonage applications generally result in more consistent performance.

### **Nozzle and Nozzle Orientation**

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine droplets. Use the largest droplet size possible that provides sufficient coverage and control. Use nozzles which produce flat or hollow cone spray patterns. Use non-drip type nozzles, such as diaphragm-type nozzles to avoid unwanted discharge of spray solution.

Do not angle nozzles forward into the air stream and do not increase spray volume by increasing nozzle pressure. The nozzles must be directed toward the rear of the aircraft, at an angle between 0° and 15° downward.

### **Adjuvants and Drift Control Additives**

Refer to tank mix partner's label for adjuvant recommendation. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

## **SPRAY DRIFT MANAGEMENT**

**Do not allow spray from ground or aerial equipment to drift onto adjacent land or crops.** The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all factors involved in minimizing drift potential.

**The following aerial drift reduction advisory information must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.**

1. Do not spray if wind speed is greater than 10 mph. If sensitive crops or plants are downwind, extreme caution must be used under all conditions.
2. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
3. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.
4. Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.
5. When making tank mixture applications follow the most restrictive label directions, including application buffer zones, of each product in the mixture.

### **Importance of Droplet Size**

The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Use nozzle types and nozzle arrangements that will provide maximum coverage and minimize the potential for off target movement of spray particles. Droplet size for both ground and air applications should be in the "medium" size category as defined in the August 1999 ASAE S572 publication entitled, "Spray Nozzle Classification by Droplet Spectra". Refer to that publication for additional information. Regardless of droplet size, if applications are made improperly or under unfavorable environmental conditions off target movement will occur. (see Wind, Temperature and Humidity, and Temperature Inversions sections of this label).

### **Controlling Droplet size**

Volume for aerial application: use *Resource* in 7 to 10 gals/A of water for spring burndown programs and 5 to 10 gals/A of water for defoliation.

Volume for ground application: use *Resource* at a minimum of 10 gals/A of water.

Use high flow rate nozzles that produce medium droplets to apply the highest practical spray volume. Applications at minimum recommended volume may provide inadequate results. The higher gallonage application generally provides more consistent performance.

Pressure: use a maximum spray pressure of 40 PSI for aerial application and 50 PSI for ground application. Use the lower spray pressures recommended for the nozzle and do not exceed the manufacturer's recommended pressure. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of nozzles: use the minimum number of nozzles that provide uniform coverage.

Nozzle orientation: orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection of the nozzle from the horizontal will reduce droplet size and increase drift potential.

Nozzle type: use a nozzle type that is designed for the intended application. Do not use air inducing or flood type nozzles.

Application: applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### **Swath Adjustment**

When applications are made with a cross wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

### **Wind**

Variable wind speeds with changing directions may pose the largest potential for drift damage in areas that are adjacent to the field to be sprayed. Drift potential is lowest between wind speeds of 2 to 8 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation but they still should remain within the medium droplet size category. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Do not spray at times when spray particles may be entrained into a temperature inversion layer. If inversion conditions are suspected, consult with local weather services before making an application. Applications should not occur during temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to 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. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Do not apply during low-level inversion conditions, when winds are gusty or under any other condition that favors drift. Do not spray when drift is possible or when wind velocity is less than 2 or more than 10 mph.

Drift may cause damage to any vegetation contacted to which application is not intended. To prevent injury to adjacent desirable vegetation, appropriate buffer zones must be maintained.

Do not apply this product within 40 feet of non-target plants including non-target crops.

Do not apply this product within 70 feet of streams, wetlands, marshes, ponds, lakes and reservoirs.

**Nozzle and Nozzle Orientation**

Use nozzle types that are designed for the application. The nozzle must be directed towards the rear of the aircraft, at an angle between 0° and 15° downward, do not place nozzles on the outer 25% of the wing or rotor.

**DIRECTIONS FOR USE IN SPRING BURNDOWN PROGRAMS**

**DIRECTIONS FOR USE IN SPRING BURNDOWN PROGRAMS (Prior to crop emergence in cotton)**

*Resource*, at 2 to 4 fl oz/A, can be used in combination with labeled burndown herbicides to help control emerged weeds prior to crop emergence. The addition of *Resource* to burndown herbicides such as glyphosate and 2,4-D has been shown to increase the speed of control of many weeds as well as increase overall burndown of Carolina geranium, cutleaf evening primrose and smartweeds. Refer to glyphosate and/or 2,4-D labels for weeds controlled and rotational restrictions.

**DIRECTIONS FOR USE IN COTTON DEFOLIATION**

**TIME OF APPLICATION**

*Resource* should be applied to cotton when at least 60 percent of the bolls are open.

**RATE OF APPLICATION**

Up to eight (8) fl. oz. per acre of *Resource* are required for defoliation. An additional six (6) fl. oz. per acre of *Resource* can be applied seven days after the first if additional defoliation is required. Good coverage of cotton is essential for maximum defoliation.

**USE DIRECTIONS:**

| RATE OF APPLICATION  | TIMING OF APPLICATION      |
|--|----------------------------|
| <b>Region 1:</b> Alabama, Florida, Georgia, North Carolina, South Carolina, Tennessee (east of Tennessee River) and Virginia.    |                            |
| 4 to 8 fl. oz./A<br>An additional 4 to 6 fl. oz./A can be used 7 days after the first if additional defoliation is needed.       | At least 60% of bolls open |
| <b>Region 2:</b> Arkansas, Louisiana, New Mexico, Mississippi, Missouri, Oklahoma, Tennessee (west of Tennessee River) and Texas |                            |
| 6 to 8 fl. oz./A<br>An additional 4 to 6 fl. oz./A can be used 7 days after the first if additional defoliation is needed.       | At least 60% of bolls open |

**ADDITIVES**

*Resource* must be applied with 1 to 2 pt./A crop oil concentrate or methylated seed oil. The crop oil concentrate or methylated seed oil must contain at least 15% emulsifier. Under ideal defoliation conditions (warm sunny days) a non-ionic surfactant may be substituted for crop oil concentrate. Mixing and compatibility qualities should be verified by a jar test. A spray grade nitrogen fertilizer solution (28-32% N) at 1 to 2 qts./A or spray grade ammonium sulfate at 2.0 to 2.5 lbs./A may be added to enhance defoliation.

## MIXING INSTRUCTIONS

Fill the spray tank with one-half of the total amount of water to be used, begin agitation, add *Resource*, add adjuvant(s), and then fill spray tank to final level.

## TANK MIXES

### Boll Openers

*Resource* can be tank mixed with boll openers, such as ethephon (Prep<sup>®</sup>, Finish<sup>®</sup>), to assist in harvest preparation.

### Regrowth Preventers

*Resource* can be tank mixed with regrowth preventers.

### Defoliants/Desiccants

*Resource* can be tank mixed with other defoliants and/or desiccants to aid in harvesting. *Resource* can be tank mixed with CottonQuick<sup>®</sup>, Dropp<sup>®</sup>, Finish, Ginstar<sup>®</sup>, Harvade<sup>®</sup> or other registered cotton harvest aid products.

A jar compatibility test should be conducted before tank mixing *Resource* with any other product until the user is confident in the tank mix partner's compatibility with *Resource*. When tank mixing *Resource* with other products, add the least soluble product first (WP & WDG>EC>solutions).

## MULTIPLE APPLICATIONS

A maximum of 2 applications of *Resource* can be made provided no more than 14 fl. oz. is applied during a single growing season and no more than 8 fl. oz. per acre is applied during a single application.

The recommended treatment regimen is to apply 4 to 8 fl. oz. per acre during the first application and if a second application is necessary, an additional 4 to 6 fl. oz. per acre can be applied seven days after the first application.

## HARVEST TIMING

Cotton can be harvested no sooner than seven (7) days after the last application of *Resource*.

**THIS LABELING MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF APPLICATION. PLEASE REFER TO CONTAINER LABEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS. FOLLOW ALL APPLICATION DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THE EPA REGISTERED LABEL.**

**PLEASE CONTACT VALENT U.S.A. CORPORATION AT 800-6-VALENT (682-5368) TO DETERMINE IF THIS USE IS REGISTERED IN YOUR STATE.**

Manufactured for  
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Made in U.S.A.



**VALENT<sup>®</sup>** *Products That Work, From People Who Care<sup>™</sup>* | [www.valent.com](http://www.valent.com) | 800-6-VALENT (682-5368)

**Read and follow the label instructions before using.**

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