

42750-224

02-06-2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Morris Gaskins  
Albaugh, Inc.  
P.O. Box 2127  
Valdosta, GA 31604

Subject: Product Name: Quinclorac 15.93% FL  
Proposed Name Change: Quinclorac 1.5 DMA  
EPA Reg. No. 42750-224  
Label Notification per PRN 98-10

FEB 6 2012

Dear Mr Gaskins,

The Agency is in receipt of your application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for Quinclorac 15.93% FL (EPA Reg. No. 42750-224) dated February 3, 2012. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The official name change from Quinclorac 15.93% FL to Quinclorac 1.5 DMA is acceptable and our records will be updated to reflect this change.

If you have any questions, please contact Emily Hartman of my staff at (703) 347-0189 or [hartman.emily@epa.gov](mailto:hartman.emily@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis".

Kable Bo Davis, Product Manager 25  
Herbicide Branch  
Registration Division  
Office of Pesticide Programs

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	United States <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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**Application for Pesticide - Section I**

1. Company/Product Number 42750-224	2. EPA Product Manager K. Davis	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) Quinclorac 15.93% FL (aka Quinclorac 1.5 DMA)	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Albaugh, Inc. P.O. Box 2127 Valdosta, GA 31604 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

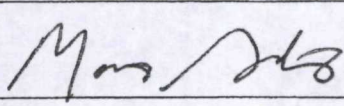
**NOTIFICATION**  
**FEB - 6 2012**

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)  
 Notification to change the official name of record from "Quinclorac 15.93% FL Herbicide" to "Quinclorac 1.5 DMA"  
 This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no further changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under section 12 and 14 of FIFRA.

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 250 gal		5. Location of Label Directions <input checked="" type="checkbox"/> Attached to container	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Morris Gaskins	Title Registrations Manager	Telephone No. (Include Area Code) 229-244-3288
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Registrations Manager	
4. Typed Name Morris Gaskins	5. Date February 3, 2011	

# ALBAUGH, INC.

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GEORGIA OFFICE  
P.O. Box 2127  
Valdosta, GA 31604-2127  
229.244.3288 (Phone)  
229.244.5841 (FAX)

Fed-X

February 3, 2012

Document Processing Desk  
Mr. Bo Davis (PM 25)  
Registration Division  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard (South Bldg)  
2777 South Crystal Dr.  
Arlington, VA 22202

RE: EPA Reg. No. 42750-224

Dear Mr. Davis,

The enclosed submission is to request an official name of record change for the referenced product from:

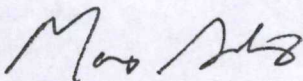
**Quinclorac 15.93% FL Herbicide**

to

**Quinclorac 1.5 DMA**

Please call if you have any questions.

Regards,



Morris Gaskins  
Registrations Manager  
Albaugh, Inc.

**Agri Star**<sup>®</sup>  
By Albaugh, Inc.

PREMIER SUPPLIER OF OFF-PATENT CROP PROTECTION PRODUCTS  
[www.albaughinc.com](http://www.albaughinc.com)

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**QUINCLORAC 1.5 DMA  
HERBICIDE**

**ACTIVE INGREDIENT:**

Dimethylamine salt of quinclorac; 3,7-dichloro-8-quinolinecarboxylic acid . . . . . 18.92%

**OTHER INGREDIENTS:** . . . . . 81.08%

**TOTAL:** . . . . . 100.00%

Equivalent to: 1.50 lbs quinclorac; 3,7-dichloro-8-quinolinecarboxylic acid equivalent per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

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

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

FIRST AID	
IF SWALLOWED	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• DO NOT induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• DO NOT give anything by mouth to an unconscious person.</li> </ul>
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
IF IN EYES	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For transport or medical emergency contact CHEMTREC at 1-800-424-9300	

EPA Reg. No. 42750-224

EPA Est. No. 70815-GA-002

NET CONTENTS: 1 Qt, 1 Gal.

MANUFACTURED FOR:  
Albaugh, Inc.  
Ankeny, IA 50021

**NOTIFICATION**

**FEB - 6 2012**

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemically resistant to this product are listed below. For more options, refer to Category A on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as butyl rubber > 14 mils, or natural rubber > 14 mils, or neoprene rubber > 14 mils, or nitrile rubber > 14 mils
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENGINEERING CONTROLS STATEMENT

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.

ENVIRONMENTAL HAZARDS

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Keep out of lakes, ponds and streams. DO NOT apply directly to water, areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT contaminate water by cleaning of equipment or disposal of rinsate.

DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. DO NOT discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

DIRECTIONS FOR USE

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

For use only by certified commercial applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

All applicable directions, restrictions and precautions are to be followed. This labeling must be in the possession of the user at time of application.

DO NOT apply this product by air or through any type of irrigation equipment. Albaugh, Inc. does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application to turf.

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 specified area during application.

For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, and water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material (such as nitrile, butyl, neoprene, and/or barrier laminate)
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, nurseries, or greenhouses. Professional applications to residential and nonresidential turf are not within the scope of the Worker Protection Standard.

- DO NOT enter or allow others to enter the treated area until sprays have dried.

### STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: DO NOT store box under dampness or high humidity.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAINER DISPOSAL: 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  $\leq$  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.

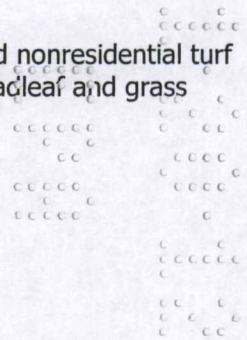
Triple rinse containers too large to shake (capacity  $>$  5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or 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.

### PRODUCT INFORMATION

QUINCLORAC 1.5 DMA herbicide may be applied post-emergence to residential and nonresidential turf grasses (refer to Table 1. Turf Tolerance (Established) for the control of many broadleaf and grass weeds. Examples of such sites include, but are not limited to:

- Grounds or lawns around residential and commercial establishments
- Multifamily dwellings
- Military and other institutions
- Parks
- Airports
- Roadsides
- Schools
- Picnic grounds
- Athletic fields
- Houses of worship
- Cemeteries
- Golf courses
- Sod farms



Mode of Action

QUINCLORAC 1.5 DMA is an auxin agonist and is classified as a quinoline carboxylic acid. It is absorbed by foliage and roots and translocated throughout the plant. The control symptoms exhibited by broadleaf weeds include leaf and stem curl or twisting, and chlorosis. Susceptible grasses demonstrate stunting, chlorosis, and gradual reddening followed by necrosis and death. Refer to Tables 1, 2 and 3 for turfgrass tolerance and susceptible weed species.

Resistance Management

QUINCLORAC 1.5 DMA has a low probability of selecting for resistant weed biotypes. However, repeated applications of a single mode of action in a weed management plan increase the probability of selecting for naturally occurring biotypes with less susceptibility to herbicides using that mode of action. Therefore, weed management programs should include rotations using herbicides with different modes of action.

APPLICATION INFORMATION

Apply QUINCLORAC 1.5 DMA to actively growing weeds as post-emergence broadcast or spot sprays using the turf species, rate and growth stages indicated in Tables 1, 2 and 3.

DO NOT exceed the labeled application rate or fail to comply with use restrictions listed in Restrictions and Limitations.

For best results, weeds should not be under stress from lack of water, excessive water, low fertility, mowing shock, excessive hot or cold temperatures, or injury from other herbicide applications.

To achieve consistent weed control, use methylated seed oil. Refer to Tables 2 and 3 for rates.

Adding adjuvants may cause slight leaf burn, but new growth is normal, and turf vigor is not reduced. The potential for leaf burn is increased when relative humidity and temperature are high. Additional stress from low mowing heights may also increase the possibility of turf injury. Chelated iron or sprayable soluble nitrogen fertilizer will reduce a slight yellowing that may occur on some turf-grass species. Not all chelated iron or sprayable nitrogen fertilizers are compatible with QUINCLORAC 1.5 DMA. Always perform a compatibility test to ensure proper mixing. See Compatibility Test For Mix Components section of label for directions,

Spot Applications:

Post-emergence spot applications may be made to susceptible weeds in turf grass that is tolerant to QUINCLORAC 1.5 DMA (see Tables 1 and 2). Apply 1.45 fluid ounces of QUINCLORAC 1.5 DMA per 1000 square feet (0.75 lb ae/A) of treated area. Spray coverage should be uniform and complete. See Table 5 for spot spray mix instructions.

Mowing Information:

DO NOT mow 2 days before or after applying QUINCLORAC 1.5 DMA to maximize weed control and minimize potential turf injury. Clippings from the first three mowings after application should be left on the treated area.

Irrigation and Rainfall: If soil moisture is not sufficient prior to QUINCLORAC 1.5 DMA application, irrigation may improve weed control. For best results, DO NOT water or irrigate for 24 hours after application. If rainfall does not occur in 2 to 7 days after application, irrigation of at least 1/2 inch is desirable.



### Extended Grass Control:

To extend grass control, QUINCLORAC 1.5 DMA can be tank mixed with Pendulum® herbicide or Pre-M® herbicide to provide residual control of annual grasses. Consult the respective tank mix labels for additional weeds controlled.

### Seeding/Overseeding/Sprigging

The use of QUINCLORAC 1.5 DMA before or after seeding or over-seeding a turf area will not significantly interfere with the turf grass seed germination and growth of those grass types identified as tolerant or moderately tolerant in Table 1. Consult Table 4 for timing of applications concerning any seeding, overseeding or sprigging situation.

## ADDITION OF ADJUVANTS

### Additives in Spray Mix to Achieve Control

Methylated seed oil is the preferred adjuvant for post-emergence applications. However, if an MSO is not available in your region, the use of a crop oil concentrate or other high quality surfactant must be used in the spray tank at the time of application. (Refer to actual product label for use rates and directions.)

Additives should not be used when tank mixing with Emulsifiable Concentrate (EC) products as turf phyto-toxicity may occur.

The methylated seed oil or crop oil concentrate used as the adjuvant with QUINCLORAC 1.5 DMA herbicide must meet all the following criteria:

- Nonphytotoxic
- Contain only EPA-exempt ingredients
- Provide good mixing quality in the jar test
- Successful in local experience

The exact composition of suitable products will vary; however, any methylated seed oil or crop oil concentrate used should contain emulsifiers to provide good mixing quality.

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended.

Consult your local Albaugh, Inc. representative or distributor for instructions for your area.

## MIXING INSTRUCTIONS FOR QUINCLORAC 1.5 DMA

1. Water: Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
2. Agitation: Maintain constant agitation throughout mixing and application.
3. Inductor: If an inductor is used, rinse it thoroughly after each component has been added.
4. 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.
5. Water-dispersible products (dry flowables, wettable powders, suspension concentrates, or suspensions).
6. Water-soluble products (such as QUINCLORAC 1.5 DMA).

- 7. Emulsifiable concentrates (such as methylated seed oil or crop oil concentrate).
- 8. Water-soluble additives (such as chelated iron or soluble nitrogen fertilizer when applicable; not all chelated iron or sprayable nitrogen fertilizers are compatible with QUINCLORAC 1.5 DMA, Always perform a compatibility test to ensure proper mixing. See Compatibility Test For Mix Components section of label for directions.)
- 9. Remaining quantity of water.

Maintain constant agitation during application.

Backpack Sprayer:

Begin with a clean spray tank. Fill the spray tank 1/2 full with clean water and add the required amount of QUINCLORAC 1.5 DMA to the sprayer. Cap sprayer and agitate to ensure mixing. Uncap sprayer and add appropriate amount of methylated seed oil. Cap sprayer and agitate once again. Uncap sprayer and finish filling tank to desired level. During application, it is desirable to agitate the mixture on occasion to ensure mixing.

If the mixture is allowed to settle for any period of time, thorough agitation is essential before spraying is resumed.

SPRAYING INSTRUCTIONS FOR QUINCLORAC 1.5 DMA

Apply with properly calibrated ground equipment in sufficient water per acre to provide uniform spray distribution (at least 20 gallons of water per acre or at least 0.5 gallon per 1000 sq ft). Use low pressure sprayers at 20 to 40 psi. Maintain continuous agitation during spraying with good mechanical or bypass agitation. Nozzle screens must be no finer than 50 mesh (100 mesh is finer than 50 mesh). Check sprayer routinely to determine proper calibration. Flat fan, flood or cone nozzles may be used. Nozzles should be arranged to obtain uniform coverage for turf and weeds to be controlled. Boom height, nozzle selection, and pressure should be adjusted to provide uniform coverage and minimize spray drift.

Avoid overlaps that will increase rates above those labeled for use. Avoid application when winds may cause drift,

Procedure For Cleaning Spray Equipment Clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions before and after applying this product.

COMPATIBILITY TEST FOR MIX COMPONENTS

Add components in the following sequence using 2 teaspoons for each pound or 1 teaspoon for each pint of labeled rate per acre.

- 1) Water - For 20 gallons per acre spray volume, use 3.3 cups (800 ml) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
- 2) Products in PVA bags - Cut an opening in the water-soluble PVA bag just large enough to use a teaspoon for measuring purposes. Use the opened, water-soluble PVA bag first when preparing spray solution. Boron-containing fertilizers can be incompatible with PVA material. Include PVA material if a boron fertilizer is intended to be used. Cap the jar and invert 10 cycles.
- 3) Water-dispersible products (dry flowables, wettable powders, suspension concentrates, or suspo-emulsions) - Cap the jar and invert 10 cycles.

- 4) Water-soluble products (QUINCLORAC 1.5 DMA) - Cap the jar and invert 10 cycles.
- 5) Emulsifiable concentrates (methylated seed oil) - Cap the jar and invert 10 cycles.
- 6) Water-soluble additives - Cap the jar and invert 10 cycles.
- 7) Let the solution stand for 15 minutes.
- 8) Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface nor thick (clabbered) texture. For WG or WP products, a fine precipitate that is easily resuspended is normal; large, nondispersible particles (>300 microns) that precipitate on standing are a sign of tank mix incompatibility. DO NOT use any spray solution that could clog spray nozzles.

### RESTRICTIONS AND LIMITATIONS

- DO NOT apply more than 128 fluid ounces of QUINCLORAC 1.5 DMA herbicide per acre (or 2.9 fl ozs per 1000 sq ft) in one year (1.5 lbs ae per acre per year).
- DO NOT apply to golf course collars or greens.
- DO NOT make applications of QUINCLORAC 1.5 DMA to drought-stressed turfgrass and/or drought-stressed weeds.
- DO NOT apply to fine fescue unless it is part of a seed blend.
- DO NOT apply to Bahiagrass, carpetgrass, St. Augustinegrass, centipedegrass, dichondra, or lawns or turf where desirable clovers are present.
- DO NOT apply to exposed feeder roots of trees or ornamentals. Be particularly careful within the drip line of trees and other ornamental species.
- DO NOT apply into any ornamental bed.
- DO NOT apply within 4 weeks after seedling emergence of Kentucky bluegrass, creeping bentgrass, fine fescue blends and perennial ryegrass.
- DO NOT apply QUINCLORAC 1.5 DMA prior to and within 2 weeks after seeding seashore paspalum.
- DO NOT use clippings as mulch or compost around flowers, ornamentals, trees, or in vegetable gardens.
- DO NOT plant eggplants or tobacco within 12 months to areas treated with QUINCLORAC 1.5 DMA.
- DO NOT plant tomatoes or carrots within 24 months to areas treated with QUINCLORAC 1.5 DMA.
- Apply when wind speed is less than 10 mph as drift may cause damage or death of nontarget area vegetation. DO NOT apply when conditions favor drift from target area.
- Use a lawn-type sprayer with coarse spray as wind drift is less likely.
- Avoid mist and spray onto vegetables, flowers, ornamentals, shrubs, trees, and other desirable plants, especially plants belonging to the Solanaceae family, such as tomatoes, eggplants, and bell peppers.
- DO NOT discard rinsate on or near desirable plants.
- DO NOT apply through any type of irrigation system.
- DO NOT use to formulate or reformulate any other pesticide product that is not registered by EPA.

### TURFGRASS TANK MIXES

Read and follow the applicable Restrictions and Limitations and Directions For Use on all products involved in tank mixing.

The most restrictive labeling applies to any tank mix. To increase spectrum of control of broadleaf weed species, a tank mix with 2,4-D, triclopyr, or other broadleaf herbicides may be used. For extended residual control, apply QUINCLORAC 1.5 DMA with Pendulum® herbicide or PRE-M® herbicide.

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For sedge control, applications of QUINCLORAC 1.5 DMA with Basagran® T/O herbicide, Image® 70 DG herbicide, Lescogran® herbicide, or MSMA may be made. Combinations with MSMA will aid in control of certain grassy weeds, such as Bahiagrass or kikuyugrass. Consult labels for turf grass tolerance when tank mixing. Separate applications should be made if all target weeds are not at the correct growth stage for treatment at the same time.

Physical incompatibility, reduced weed control, or turf injury may result from mixing QUINCLORAC 1.5 DMA with other pesticides (fungicides, herbicides, insecticides, or miticides), additives, or fertilizers.

Before tank mixing, a simple jar test is required to ensure compatibility of herbicides or other pesticides and/or additives. Refer to manufacturer's labels for specific use directions, precautions, and limitations before tank mixing with QUINCLORAC 1.5 DMA, and follow those that are most restrictive.

Table 1. Turf Tolerance (Established)

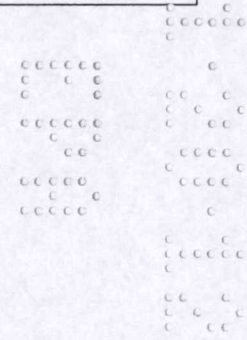
Highly Tolerant	Moderately Tolerant	Susceptible
Bermudagrass, common <sup>1</sup>	Bentgrass, creeping <sup>1</sup>	Bahiagrass
Bluegrass, annual	Bermudagrass, hybrid <sup>1</sup>	Bentgrass, colonial
Bluegrass, Kentucky	Bluegrass, rough	Bentgrass, seaside
Buffalograss	(Poa trivialis)	Centipedegrass
Fescue, tall	Fescue, Chewing's	Dichondra
Ryegrass, annual	Fescue, fine <sup>2</sup>	St. Augustinegrass
Ryegrass, perennial	Fescue, hard	
Zoysiagrass	Fescue, red	
	Paspalum, seashore	

<sup>1</sup> Yellowing that occurs on these species can be reduced by the addition of chelated iron or sprayable soluble nitrogen fertilizer (see Application Information and Addition of Adjuvants).

<sup>2</sup> Apply QUINCLORAC 1.5 DMA herbicide to fine fescue only when it is part of a blend.

DO NOT use on golf course greens and collars.

Consult Table 4. Seeding/Overseeding/Sprigging Timing Chart for this situation.



Turfgrass Species	Application Rate/Timing	Additive Rate
Bentgrass, creeping <sup>1,2</sup>	QUINCLORAC 1.5 DMA must be applied in 2 to 3 split applications at 0.5 to 1.0 fl oz per 1000 sq ft (0.25 to 0.51 lb ae/A) (not to exceed 128 fl ozs of product per acre [2.9 fl ozs of product per 1000 sq ft] per year or 1.5 lbs ae/A/year).  Time sequential application(s) 14 to 21 days apart.	Use methylated seed oil at 0.55 fl oz per 1000 sq ft (1.5 pints per acre).
Bentgrass, creeping <sup>1,3</sup>	QUINCLORAC 1.5 DMA must be applied in 2 to 3 split applications at 0.65 to 1.0 fl oz per 1000 sq ft (0.33 to 0.51 lb ae/A) (not to exceed 128 fl ozs of product per acre [2.9 fl ozs of product per 1000 sq ft] per year or 1.5 lbs ae/A/year).  Time sequential application(s) 14 to 21 days apart.	Use methylated seed oil at 0.55 fl oz per 1000 sq ft (1.5 pints per acre).

<sup>1</sup> Yellowing that occurs on these species can be reduced by the addition of chelated iron or sprayable soluble nitrogen fertilizer (see Application Information and Addition of Adjuvants).

<sup>2</sup> Not for use at this rate range in California.

<sup>3</sup> This rate range for use only in California.

DO NOT use on golf course greens and collars.

Consult Table 4. Seeding/Overseeding/Sprigging Timing Chart for this situation.

Weed Species		QUINCLORAC 1.5 DMA herbicide Rate	Additive Rate
<b>Grasses Controlled</b>		Broadcast Applications 64 fl ozs of product per acre or 1.45 fl ozs per 1000 sq ft (0.75 lb ae/A)	Apply 1.5 pints per acre (0.55 fl oz per 1000 sq ft) methylated seed oil
Common Name	Scientific Name		
Barnyardgrass	<i>Echinochloa crusgalli</i>		
Crabgrass, large <sup>1,4</sup>	<i>Digitaria sanguinalis</i>		
Crabgrass, smooth <sup>1,4</sup>	<i>Digitaria ischaemum</i>		
Foxtail, giant <sup>1</sup>	<i>Safari faberi</i>		
Foxtail, green <sup>1</sup>	<i>Setari viridis</i>		
Foxtail, yellow <sup>1</sup>	<i>Setari glauca</i>		
Kikuyugrass <sup>2,3</sup>	<i>Pennisetum dandestinum</i>		
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>		
Torpedograss <sup>3</sup>	<i>Panicum repens</i>		
<b>Broadleaf Weeds Controlled</b>		Spot Applications Apply 1.45 fl ozs of QUINCLORAC 1.5 DMA per 1000 sq ft (0.75 lb ae/A) of treated area. Refer to footnotes in Tables 2 and 3 for specific turf-	
Common Name	Scientific Name		
Bindweed, field	<i>Convolvulus arvensis</i>		
Clover, hop	<i>Trifolium aureum Pollich</i>		
Clover, red	<i>Trifolium pratense</i>		
Clover, white	<i>Trifolium repens Bellis</i>		
Daisy, English <sup>2,5</sup>	<i>perenne Taraxacum</i>		

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Table 3. Application Rates and Timing for Post-emergence Weed Control in Turf

Weed Species		QUINCLORAC 1.5 DMA herbicide Rate	Additive Rate
Dandelion, common <sup>2</sup> Dollarweed	<i>officinale Hydrocotyle Umbellate</i>	grass or weed instructions.	
Geranium, Carolina	<i>Geranium carolinium</i>		
Medic, black	<i>Medicago lupulina</i>		
Morningglory spp.	<i>Ipomea sp.</i>		
Speedwell, common	<i>Veronica officinalis</i>		
Speedwell, slender	<i>Veronica filiformis</i>		
Speedwell, thymeleaf	<i>Veronica serpyllifolia</i>		
Violet, wild	<i>Viola sp.</i>		

<sup>1</sup> Under certain conditions, application of QUINCLORAC 1.5 DMA made to annual grasses at 2 to 4 tiller may not provide complete control. A sequential application will be required for grass control in these situations. Optimum control is achieved when applications of QUINCLORAC 1.5 DMA + methylated seed oil are applied either before second tiller or as weed grasses mature.

<sup>2</sup> Tank mix partner or sequential application required.

<sup>3</sup> Make 2 sequential applications of 1.0 fl oz (0.51 lb ae/A) of QUINCLORAC 1.5 DMA per 1000 sq ft and an additional sequential application up to 0.90 fl oz (0.46 lb ae/A) of QUINCLORAC 1.5 DMA per 1000 sq ft at 14- to 21-day intervals.

<sup>4</sup> Biotypes of large and smooth crabgrass in California have shown varied response to QUINCLORAC 1.5 DMA. If control failure occurs following a full or split application, DO NOT reapply QUINCLORAC 1.5 DMA. Change to a herbicide with a different mode of action.

<sup>5</sup> NOT FOR USE to control this weed in California.

Table 4. Seeding/Overseeding/Sprigging Timing Chart<sup>1</sup>

Variety	Before seeding <sup>2</sup>	At seeding	7 days after emergence	14 days after emergence	28 days after emergence
Annual bluegrass	OK	OK	OK	OK	OK
Annual rygrass	OK	OK	OK	OK	OK
Buffalograss	OK	OK	OK	OK	OK
Common Bermudagrass <sup>3</sup> (for sprigging see footnote 3)	OK	OK	OK	OK	OK
Creeping bentgrass	OK	NO	NO	NO	OK
Fine fescues (in blend)	OK	NO	NO	NO	OK
Hybrid Bermudagrass <sup>3</sup> (for sprigging see footnote 3)	OK	OK	OK	OK	OK
Kentucky bluegrass	OK	NO	NO	NO	OK
Perennial ryegrass	OK	OK	NO	NO	OK

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Table 4. Seeding/Overseeding/Sprigging Timing Chart<sup>1</sup>

Variety	Before seeding <sup>2</sup>	At seeding	7 days after emergence	14 days after emergence	28 days after emergence
Seashore paspalum <sup>3,4</sup> (for sprigging see footnote 3)	NO	NO	NO	OK	OK
Tall fescue	OK	OK	OK	OK	OK
Zoysiagrass <sup>3</sup> (for sprigging see footnote 3)	OK	OK	OK	OK	OK

<sup>1</sup> NOTE: No adjuvant or additive should be used when QUINCLORAC 1.5 DMA herbicide applications are made on newly emerged turf seedlings until 28 days after emergence; with the exception of seashore paspalum, a QUINCLORAC 1.5 DMA application rate of 1 .45 fl ozs/1000 sq ft (0.75 lb ae/A) can be made to all other turf grass species in Table 4 above.

<sup>2</sup> QUINCLORAC 1.5 DMA can be applied 7 days or greater prior to seeding.

<sup>3</sup> QUINCLORAC 1.5 DMA can be used anytime prior to, at or after sprigging as indicated by Turf grass species in Table 4 above.

<sup>4</sup> 0.75 fl oz to 1 .45 fl ozs/1000 sq ft (0.37 to 0.75 lb ae/A) application can be made at times indicated in Table 4 above.

Application of QUINCLORAC 1.5 DMA should be timed around the seeding operations using the above chart as a reference point.

Table 5. Spot Spraying with QUINCLORAC 1.5 DMA

Spray Mil Volume (gallons)	QUINCLORAC 1.5 DMA Product in Mix (tablespoons)	MSO Adjuvant in Mix (tablespoons)
1	3	1.5
2	6	3.0
3	9	4.5

• Apply at the rate of 1 gallon per 1000 sq ft.  
1 tablespoon = 0.5 fl oz (0.25 lb ae/A) of QUINCLORAC 1.5 DMA product.

NOTES: For consistent results, make QUINCLORAC 1.5 DMA application to newly germinated, to 1 -tiller crabgrass, and when crabgrass has matured to 5 tillers or greater.\*

\* Under certain conditions, applications of QUINCLORAC 1.5 DMA made to annual grasses 2 to 4 tiller may not provide complete control. A sequential application will be required for grass control in these situations,

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