

QUINCLORAC

GROUP

4

HERBICIDE

SPECIMEN LABEL

# Quintessential®

HERBICIDE

**H** POWERED BY  
**Value**  
Technology

Manufactured For:  
Prime Source, a division of Albaugh, LLC  
1525 NE 36th Street, Ankeny, IA 50021

**ACTIVE INGREDIENT:**

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

**WT. BY %****OTHER INGREDIENTS:**.....81.08%**TOTAL:**.....**100.00%**

Equivalent to 1.5 lbs. quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid equivalent (ae) per gallon.

**KEEP OUT OF REACH OF CHILDREN/MANTÉNGASE  
FUERA DEL ALCANCE DE LOS NIÑOS**

**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 label booklet for complete First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

 **ALBAUGH®**  
SPECIALTY PRODUCTS

EPA Reg. No. 89442-57

AD070524S

FIRST AID	
<b>IF IN EYES/SI ENTRA EN CONTACTO CON LOS OJOS:</b>	<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>
	<ul style="list-style-type: none"> <li>• Mantenga los ojos abiertos y enjuáguelos lenta y cuidadosamente con agua, durante 15 a 20 minutos.</li> <li>• Si utiliza lentes de contacto, retírelos después de los primeros 5 minutos, luego continúe enjuagando los ojos.</li> <li>• Llame al centro de control de envenenamientos o a un médico para consejo de tratamiento.</li> </ul>
HOTLINE NUMBER	
Have the product label with you when calling a poison control center (888-347-6732) or doctor, or going for treatment. For 24-hour emergency assistance, chemical spill, leak, fire, exposure or accident call CHEMTREC toll free at 1-800-424-9300.	
Cuando llame a un centro de control de envenenamiento (888-347-6732), o a un médico, o intente obtener tratamiento, tenga a la mano el envase o la etiqueta del producto. Para obtener información sobre derrames, fugas, incendios, exposiciones o accidentes químicos las 24 horas, llame a CHEMTREC sin cargo al 1-800-424-9300.	

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

##### Applicators and other handlers must wear:

- Protective eyewear
- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of butyl rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, or nitrile rubber  $\geq 14$  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.

#### 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 170.607(d-e), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS	RECOMENDACIONES DE SEGURIDAD PARA EL USUARIO
<b>Applicators and other handlers should:</b> <ul style="list-style-type: none"> <li>• Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> </ul> <p>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.</p>	<b>Los usuarios deben usar:</b> <ul style="list-style-type: none"> <li>• Quítese la ropa/EPP inmediatamente si el pesticida entra. Luego lávese bien y póngase ropa limpia.</li> </ul> <p>Quítese el EPP inmediatamente después de manipular este producto. Lave el exterior de los guantes antes de quitárselos. Tan pronto como sea posible, lávese bien y cámbiese a ropa limpia.</p>

#### 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.

## DECLARACIONES PREVENTIVAS

### RIESGOS PARA LOS SERES HUMANOS Y ANIMALES DOMÉSTICOS

#### PRECAUCION

Causa irritación moderada en los ojos. Evite el contacto con los ojos o ropa. Quitar y lavar la ropa contaminada antes de usarla nuevamente. Lávese minuciosamente con agua y jabón después de manipularlo y antes de comer, beber, mascar chicle, consumir tabaco o ir al baño.

#### EQUIPO DE PROTECCIÓN PERSONAL (PPE)

##### Los aplicadores y otros manipuladores de pesticidas (plaguicidas) deben usar:

- Gafas de seguridad
- Camisa de manga larga, pantalones largos
- Guantes resistentes a productos químicos como caucho de butilo  $\geq 14$  mils, caucho natural  $\geq 14$  mils, caucho de neopreno  $\geq 14$  mils, o caucho de nitrilo  $\geq 14$  mils
- Calcetines y zapatos

Siga las instrucciones del fabricante para la limpieza/mantenimiento del equipo de protección personal (PPE, por sus siglas en inglés). En caso de no existir dichas instrucciones de lavado, utilice detergente y agua caliente. Mantenga y lave el PPE separadamente de otra ropa para lavar.

## PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow to come in contact with any oxidizing agent. Hazardous chemical reaction may occur.

## DIRECTIONS FOR USE

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

All applicable directions, restrictions, and precautions must be followed. This labeling must be in the possession of the user at time of application. Prime Source, a division of Albaugh, LLC 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.

## INSTRUCCIONES DE USO

El uso de este producto de forma contraria a lo indicado en su etiqueta constituye una infracción de la ley federal.

Se deben seguir todas las instrucciones, restricciones y precauciones aplicables. Este etiquetado debe estar en posesión del usuario en el momento de su uso. Prime Source, a division of Albaugh, LLC no recomienda ni autoriza el uso de este producto en la fabricación, procesamiento o preparación de mezclas personalizadas con otros productos para su aplicación al césped.

No aplique este producto de manera que entre en contacto con trabajadores u otras personas, ya sea directamente o por deriva. Solo los manipuladores protegidos pueden estar en el área durante la aplicación. Para cualquier requisito específico de su estado o tribu, consulte a la agencia estatal o tribal responsable de la regulación de pesticidas.

### 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 butyl rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, or nitrile rubber  $\geq 14$  mils
- Shoes plus socks

### REQUISITOS DE USO AGRICOLA

Utilice este producto solo de acuerdo con su etiqueta y el Estándar para la Protección del Trabajador Agrícola (WPS, por sus siglas en inglés), 40 CFR Parte 170. Esta ley contiene los requisitos para la protección de los trabajadores agrícolas en granjas, bosques, viveros e invernaderos, y para las personas que manipulan pesticidas agrícolas. Contiene requisitos para la capacitación, descontaminación, notificación y asistencia de emergencia. También contiene instrucciones específicas y excepciones relacionadas con las indicaciones en esta etiqueta acerca del equipo de protección personal (PPE, por sus siglas en inglés), y el intervalo de ingreso restringido. Los requisitos en esta sección de la etiqueta (requisitos para uso agrícola) aplican únicamente a los usos de este producto que están cubiertos por el Estándar para la Protección del Trabajador Agrícola.

No ingrese o permita el ingreso de trabajadores a las áreas tratadas durante el intervalo de acceso restringido (REI, por sus siglas en inglés) de 12 horas.

El equipo de protección personal requerido para el acceso anticipado a áreas tratadas de acuerdo con el Estándar para la Protección del Trabajador Agrícola, y que involucra el contacto con material tratado, como plantas, tierra o agua, es:

- Overol (mameluco)
- Guantes resistentes a productos químicos laminado de butilo  $\geq 14$  mils, caucho natural  $\geq 14$  mils, caucho de neopreno  $\geq 14$  mils, or caucho de nitrilo  $\geq 14$  mils
- Calcetines y zapatos

### NON-AGRICULTURAL 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.

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

### REQUISITOS DE USO NO AGRICOLA

Los requisitos en este recuadro se aplican a los usos de este producto que NO están dentro del alcance de la Norma de protección del trabajador, 40 CFR parte 170. La WPS se aplica cuando este producto se usa para producir plantas agrícolas en granjas, bosques, viveros e invernaderos.

NO entre ni permita que otros entren en el área tratada hasta que los aerosoles se hayan secado.

## PRODUCT INFORMATION

**QUINTESSENTIAL®** may be applied post-emergence to residential, non-residential and other listed turfgrass sites (refer to **Table 1. Turf Resistance Established**) for the control of many broadleaf and grass weeds. Use sites include:

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

## USE PRECAUTIONS

- 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.

## USE RESTRICTIONS

- DO NOT apply more than 128 fl. oz. of **QUINTESSENTIAL®** per acre (or 2.9 fl. oz. per 1,000 sq. ft.) in 1 year (1.5 lbs. ae per acre per year).
- DO NOT exceed the maximum single application rate of 48-64 fl. oz. of **QUINTESSENTIAL®** per acre (1.10-1.45 fl. oz. of **QUINTESSENTIAL®** per 1,000 sq. ft.) or 0.56-0.75 lb. ae per acre.
- 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 **QUINTESSENTIAL®**.
- DO NOT plant tomatoes or carrots within 24 months to areas treated with **QUINTESSENTIAL®**.
- Do not apply when wind speeds are greater than 10 mph at the application site.
- Apply as a medium or coarser spray (ASABE standard S-572).
- Do not release spray at a height greater than 30 inches above the ground.
- DO NOT discard rinsate on or near desirable plants.
- DO NOT apply by air or through any type of irrigation system.
- DO NOT use to formulate or reformulate any other pesticide product that is not registered by EPA.
- DO NOT apply to golf course collars or greens.
- DO NOT make applications of **QUINTESSENTIAL®** 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 make application to areas 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 **QUINTESSENTIAL®** prior to and within 2 weeks after seeding seashore paspalum.
- **DO NOT apply in New York State, except by spot treatment only.**

## Mode of Action

**QUINTESSENTIAL®** 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 resistance and susceptible weed species.

## Resistance Management

Quinclorac, the active ingredient in this product, is a Group 4 herbicide. Some pests are known to develop resistance to herbicides that have been used repeatedly. Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **QUINTESSENTIAL®** and other Group 4 herbicides. Weed species with acquired resistance to Group 4 herbicides may eventually dominate the weed population if Group 4 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **QUINTESSENTIAL®** or other Group 4 herbicides.

To delay herbicide resistance, consider the below best practices for resistance management:

- Plant into weed-free fields and keep fields as weed-free as possible.
- To the extent possible, use a diversified approach toward weed management. Whenever possible, incorporate multiple weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.
- Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.
- To the extent possible, do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed-bank.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.
- Prevent an influx of weeds into the field by managing field borders.
- Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.
- Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.
- Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.
- Use a broad-spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than two applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.
- If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.
- Monitor treated weed populations for loss of field efficacy.
- Scout field(s) before and after application.
- Report lack of performance to registrant or their representative.

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.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

## APPLICATION INFORMATION

Apply **QUINTESSENTIAL®** 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 **QUINTESSENTIAL® USE RESTRICTIONS**.

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 turfgrass species. Not all chelated iron or sprayable nitrogen fertilizers are compatible with **QUINTESSENTIAL®**. Always perform a compatibility test to ensure proper mixing. See **COMPATIBILITY TEST FOR MIX COMPONENTS** section of label for directions.

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

### Spot Applications:

Post-emergence spot applications may be made to susceptible weeds in turfgrass that is resistant to **QUINTESSENTIAL®** (see Tables 1 and 2). Apply 1.10-1.45 fluid ounces of **QUINTESSENTIAL®** per 1,000 square feet (0.56-0.75 lb. ae/A) of treated area. Spray coverage must be uniform and complete. See Table 5 for spot spray mix instructions.

- **FOR USE IN NEW YORK AS SPOT TREATMENT ONLY** - Spray individual weeds only. Adjust the sprayer to coarse spray to minimize wind drift. Apply to the center of the weed and spray to lightly cover.

**Mowing Information:**

Do not mow 2 days before or after applying **QUINTESSENTIAL®** to maximize weed control and minimize potential turf injury. Clippings from the first 3 mowings after application must be left on the treated area.

**Irrigation and Rainfall:**

If soil moisture is not sufficient prior to **QUINTESSENTIAL®** 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, **QUINTESSENTIAL®** can be tank mixed with a preemergent herbicide to provide residual control of annual grasses. Consult the respective tank mix labels for additional weeds controlled.

**Seeding/Overseeding/Sprigging:**

The use of **QUINTESSENTIAL®** before or after seeding or over-seeding a turf area will not significantly interfere with the turfgrass seed germination and growth of those grass types identified as resistant or moderately resistant 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 must not be used when tank mixing with Emulsifiable Concentrate (EC) products as turf phytotoxicity may occur.

The methylated seed oil or crop oil concentrate used as the adjuvant with **QUINTESSENTIAL®** 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 must 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 Prime Source, a division of Albaugh, LLC representative or distributor for instructions for your area.

**MIXING INSTRUCTIONS FOR QUINTESSENTIAL®**

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 suspo-emulsions).
6. Water-soluble products (such as **QUINTESSENTIAL®**).
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 **QUINTESSENTIAL®**. 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 **QUINTESSENTIAL®** 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 QUINTESSENTIAL®

Apply with properly calibrated ground equipment in sufficient water per acre to provide uniform spray distribution (at least 10 gallons of water per acre or at least 0.25 gallon per 1,000 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 must be arranged to obtain uniform coverage for turf and weeds to be controlled. Boom height, nozzle selection, and pressure must 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.

Clean spray 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 (**QUINTESSENTIAL®**) - 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 must 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, non-dispersible 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.

### TURFGRASS TANK MIXES

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.

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 **QUINTESSENTIAL®** with a preemergent herbicide.

For sedge control, applications of **QUINTESSENTIAL®** with herbicides that contain the active ingredients bentazon, halosulfuron, imazaquin, sulfentrazone or MSMA may be made. Combinations with MSMA will aid in control of certain grassy weeds, such as Bahiagrass or kikuyugrass. Consult labels for turfgrass resistance when tank mixing. Separate applications must 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 **QUINTESSENTIAL®** 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.



**Table 1. Turf Resistance (Established)**

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

<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 **QUINTESSENTIAL**® to fine fescue only when it is part of a blend.

DO NOT use on golf course GREENS and COLLARS.

For Seeding/Overseeding/Sprigging application information, consult Table 4.

**Table 2. QUINTESSENTIAL® Application to Establish Creeping Bentgrass**

Turfgrass Species	Application Rate/Timing	Additive Rate
Bentgrass, creeping <sup>1,2</sup>	<b>QUINTESSENTIAL</b> ® must be applied in 2 to 3 split applications at 0.5 to 1.0 fl. oz. per 1,000 sq. ft. (0.25 to 0.51 lb. ae/A) (not to exceed 128 fl. oz. of product per acre [2.9 fl. oz. of product per 1,000 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 1,000 sq. ft. (1.5 pts. per acre).
Bentgrass, creeping <sup>1,3</sup>	<b>QUINTESSENTIAL</b> ® must be applied in 2 to 3 split applications at 0.65 to 1.0 fl. oz. per 1,000 sq. ft. (0.33 to 0.51 lb. ae/A) (not to exceed 128 fl. oz. of product per acre [2.9 fl. oz. of product per 1,000 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 1,000 sq. ft. (1.5 pts. 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.

For Seeding/Overseeding/Sprigging application information, consult Table 4.



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

Weed Species		QUINTESSENTIAL® Rate	Additive Rate
<b>Grasses Controlled</b>		<b>Broadcast Applications<sup>6</sup></b> 48-64 fl. oz. of product per acre or 1.10-1.45 fl. oz. per 1,000 sq. ft. (0.56-0.75 lb. ae/A)  <b>Spot Applications<sup>7</sup></b> Apply 1.10-1.45 fl. oz. of <b>QUINTESSENTIAL®</b> per 1,000 sq. ft. (0.56-0.75 lb. ae/A) of treated area. Refer to footnotes in Tables 2 and 3 for specific turfgrass or weed instructions.	Apply 1.5 pts. per acre (0.55 fl. oz. per 1,000 sq. ft.) methylated seed oil
<b>Common Name</b>	<b>Scientific Name</b>		
Barnyardgrass Crabgrass, large <sup>1,4</sup> Crabgrass, smooth <sup>1,4</sup> Foxtail, giant <sup>1</sup> Foxtail, green <sup>1</sup> Foxtail, yellow <sup>1</sup> Kikuyugrass <sup>2,3</sup> Signalgrass, broadleaf Torpedograss <sup>3</sup>	<i>Echinochloa crusgalli</i> <i>Digitaria sanguinalis</i> <i>Digitaria ischaemum</i> <i>Setaria faberi</i> <i>Setaria viridis</i> <i>Setaria pumila</i> <i>Pennisetum clandestinum</i> <i>Brachiaria platyphylla</i> <i>Panicum repens</i>		
<b>Broadleaf Weeds Controlled</b>			
<b>Common Name</b>	<b>Scientific Name</b>		
Bindweed, field Clover, hop Clover, red Clover, white Daisy, English <sup>2,5</sup> Dandelion, common <sup>2</sup> Dollarweed Geranium, Carolina Medic, black Morningglory spp. Speedwell, common Speedwell, slender Speedwell, thymeleaf Violet, wild	<i>Convolvulus arvensis</i> <i>Trifolium aureum</i> Pollich <i>Trifolium pratense</i> <i>Trifolium repens</i> <i>Bellis perenne</i> <i>Taraxacum officinale</i> <i>Hydrocotyle Umbellata</i> <i>Geranium carolinianum</i> <i>Medicago lupulina</i> <i>Ipomoea</i> sp. <i>Veronica officinalis</i> <i>Veronica filiformis</i> <i>Veronica serpyllifolia</i> <i>Viola</i> spp.		

<sup>1</sup>Under certain conditions, application of **QUINTESSENTIAL®** 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 **QUINTESSENTIAL®** + 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 **QUINTESSENTIAL®** per 1,000 sq. ft. and an additional sequential application up to 0.90 fl. oz. (0.46 lb. ae/A) of **QUINTESSENTIAL®** per 1,000 sq. ft. at 14- to 21-day intervals.

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

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

<sup>6</sup>For California Broadcast Applications, use 64 fl. oz. of product per acre or 1.45 fl. oz. per 1,000 sq. ft. (0.75 lb. ae/A).

<sup>7</sup>For California Spot Applications, use 1.45 fl. oz. per 1,000 sq. ft. of treated area.

**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 ryegrass	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
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:** Adjuvant or additives must not be used when **QUINTESSENTIAL**® applications are made on newly emerged turf seedlings until 28 days after emergence; with the exception of seashore paspalum, a **QUINTESSENTIAL**® application rate of 1.45 fl. oz./1,000 sq. ft. (0.75 lb. ae/A) can be made to all other turfgrass species above.

<sup>2</sup>**QUINTESSENTIAL**® can be applied 7 days or greater prior to seeding.

<sup>3</sup>**QUINTESSENTIAL**® can be used any time prior to, at, or after sprigging as indicated by turfgrass species above.

<sup>4</sup>0.75 fl. oz. to 1.45 fl. oz./1,000 sq. ft. (0.37 to 0.75 lb. ae/A) application can be made at times indicated above.

Application of **QUINTESSENTIAL**® must be timed around the seeding operations using the above chart as a reference point.

**Table 5. Spot Spraying with QUINTESSENTIAL®**

Spray Mix Volume (gallons)	QUINTESSENTIAL® 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 gal. per 1,000 sq. ft.

1 tablespoon = 0.5 fl. oz. (0.25 lb. ae/A) of **QUINTESSENTIAL**® product.

**NOTES:** For consistent results, make **QUINTESSENTIAL**® application to newly germinated, to 1-tiller crabgrass, and when crabgrass has matured to 5-tillers or greater. Under certain conditions, applications of **QUINTESSENTIAL**® 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.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a dry well-ventilated area.

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

### CONTAINER HANDLING:

**For plastic containers ≤ 5 gallons: Nonrefillable Container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

**For plastic containers > 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Recap and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

## ALMACENAMIENTO Y DESECHO

**NO** contamine agua, comida ni forrajes mediante el almacenamiento y desecho.

**ALMACENAMIENTO DE PESTICIDAS:** Almacenar en un área seca y bien ventilada.

**DESECHO DE PESTICIDAS:** Los residuos resultantes del uso de este producto pueden eliminarse en el sitio o en una instalación de eliminación de residuos aprobada.

### MANIPULACIÓN DE RECIPIENTES:

**Para contenedores de plástico ≤ 5 galones: Recipientes no recargables.** No reutilice ni rellene este recipiente. Enjuague tres veces (o equivalente) inmediatamente después de vaciar. Enjuague tres veces de la siguiente manera: Vacíe el contenido restante en el equipo de aplicación o en un tanque de mezcla y drene durante 10 segundos después de que el flujo comience a gotear. Llene 1/4 del recipiente con agua y vuelva a tapar. Agitar durante 10 segundos. Vierta el enjuague en el equipo de aplicación o en un tanque de mezcla o almacene el enjuague para su uso o eliminación posterior. Drene durante 10 segundos después de que el flujo comience a gotear. Repita este procedimiento dos veces más. Una vez limpio, ofrezca el envase para ser reciclado o reacondicionado, o perfore y deseche en un relleno sanitario apropiado, o incineración.

**Para contenedores de plástico > 5 galones: Recipientes no recargables.** No reutilice ni rellene este recipiente. Enjuague tres veces (o equivalente) inmediatamente después de vaciar. Enjuague tres veces de la siguiente manera: Vacíe el contenido restante en el equipo de aplicación o en un tanque de mezcla. Llene 1/4 del recipiente con agua. Vuelva a tapar y apretar los cierres. Inclíne el recipiente de lado y gírelo hacia adelante y hacia atrás, asegurando al menos una revolución completa, durante 30 segundos. Coloque el recipiente sobre su extremo e inclínelo hacia adelante y hacia atrás varias veces. Vacíe el enjuague en el equipo de aplicación o en un tanque de mezcla o almacene el enjuague para su uso o eliminación posterior. Repita este procedimiento dos veces más. Una vez limpio, ofrezca el envase para ser reciclado o reacondicionado, o perfore y deseche en un relleno sanitario apropiado, o incineración.

## CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

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