

## SPECIMEN LABEL

QUINCLORAC

GROUP

**HERBICIDE** 

# **QUINSTAR Turf**

### **Herbicide**

**NET CONTENTS:** 1 LB.

Manufactured for:

## **ALBAUGH, LLC**

1525 NE 36th Street Ankeny, Iowa 50021

41503AL0061 AD092118

#### **ACTIVE INGREDIENT:**

Quinclorac: 3,7-dichloro-8-quinolinecarboxylic acid	75.0%
OTHER INGREDIENTS	25.0%
TOTAL:	100.0%

EPA Reg. No. 42750-90 EPA Est. No. 70815-GA-002

## **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 booklet for additional PRECAUTIONARY STATEMENTS.

#### **FIRST AID**

#### **IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

#### IF ON SKIN:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

#### **IF IN EYES:**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

#### IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

In Case of Emergency regarding this product, call: CHEMTREC 1-800-424-9300

# PRECAUTIONARY STATEMENTS Hazards to Humans and Domestic Animals

**CAUTION.** Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, clothing, or eyes. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- 1. Long-sleeved shirt and long pants
- 2. Waterproof gloves
- 3. 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 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **USER SAFETY RECOMMENDATIONS**

#### **Users should:**

- 1. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 2. Remove clothing/PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

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, to 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.

#### **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.

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:

- 1. Coveralls
- 2. Waterproof gloves
- 3. Shoes plus socks

#### 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.

#### PRODUCT INFORMATION

QUINSTAR TURF herbicide may be applied postemergence to residential and nonresidential turfgrasses (Refer to Table 1) 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, multi-family dwellings, military and other institutions, parks, airports, road-sides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses and sod farms.

QUINSTAR TURF herbicide 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.

#### HERBICIDE RESISTANCE MANAGEMENT

#### **Herbicide Management Plan:**

While weed resistance to Group 4 herbicides is infrequent, populations of resistant biotypes are known to exist. Weeds resistant to Group 4 herbicides may be effectively managed using herbicide(s) from a different group. Resistance management should be part of a diversified weed control strategy that integrates chemical, cultural, and mechanical (tillage) control tactics. Cultural control tactics include crop rotation, proper fertilizer placement, and optimum seeding rate/row spacing. Consult your local Albaugh representative, state cooperative extension service, professional consultants, or other qualified authority to determine appropriate actions if you suspect resistant weeds.

#### **Chemical Control:**

- Start clean with tillage or an effective burndown herbicide program.
- DO NOT rely on a single herbicide site of action for weed control.
- Follow labeled application rate and weed growth stage specifications.

- The use of preemergence herbicides that provide soil residual control of broadleaf and grass weeds is recommended to reduce early season weed competition and allow for timely postemergence herbicide applications.
- Avoid application of herbicides with the same site of action more than twice a season.
- Use tank mixes and sequential applications with other herbicides possessing different sites of action that are also effective on the target weeds.

#### Suspected Herbicide-Resistant Weeds may be Identified by these Indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

#### **Best Management Practices for Resistance Management/Scouting and Containment**

- Scout areas prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.
- Scout areas after herbicide application to identify areas where weed control was ineffective.
- Control weed escapes with herbicides possessing a different site of action or use a mechanical control measure. Weed escapes should not be allowed to reproduce by seed or to proliferate vegetatively.
- Contact your QUINSTAR TURF supplier and/or your local Albaugh representative to report weed escapes.
- 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 seedbank.
- Clean equipment before moving to a different area to avoid spread of resistant weeds.

#### **APPLICATION INFORMATION**

Apply QUINSTAR TURF herbicide to actively growing weeds as postemergence ground broadcast or spot sprays using the rate, turf species and growth stage indicated in Tables 1, 2 and 3. Do not exceed the application rate listed. Follow restrictions listed under the Restrictions and Limitations section.

To achieve consistent weed control, methylated seed oil is recommended. 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.

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.

**Spot Applications:** For Use in New York By Spot Treatment Only. This product is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.

**Spot treatment:** 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. See Table 5 for spot spray mix instructions.

Postemergence spot applications may be made to susceptible weeds in turfgrass that is tolerant to QUINSTAR TURF herbicide (see Tables 1 and 2). Apply 0.367 ounces of QUINSTAR TURF herbicide per 1,000 square feet of treated area (equivalent to 0.75 pound of quinclorac per acre). Spray coverage should be uniform and complete.

#### **Mowing Information:**

Do not mow 2 days before or after applying QUINSTAR TURF herbicide to maximize weed control and minimize potential turf injury. Clippings from the first three mowings should be left on the treated area.

#### **Irrigation and Rainfall:**

If soil moisture is not sufficient prior to QUINSTAR TURF herbicide 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, irrigate with at least one-half inch of water.

#### **Extended Grass Control:**

To extend grass control QUINSTAR TURF herbicide can be tank-mixed with pendimethalin-containing herbicides to provide residual control of annual grasses. Consult the respective tank-mix labels for additional weeds controlled. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### **Seeding/Overseeding/Sprigging:**

The use of QUINSTAR TURF herbicide before or after seeding or overseeding a turf area will not significantly interfere with the turfgrass seed germination and growth of those grass types identified as 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 recommended adjuvant for postemergence applications. Do not include additives when tank mixing with EC (Emulsifiable Concentrate) products as this may cause phytotoxicity. Consult your local Albaugh, LLC representative or distributor for recommendations for your area. Other additives or adjuvants may be used such as DyneAmic Lesco Spreader Sticker LI-700, Surf King Spreader, Target Pro Spreader or Thoroughbred. However, under some environmental conditions some of these products may cause phytotoxicity or less than optimal efficacy.

#### **Methylated Seed Oil Recommended:**

The methylated seed oil used as the adjuvant with QUINSTAR TURF herbicide must meet all the following criteria:

- be nonphytotoxic,
- contain only EPA-exempt ingredients,
- provide good mixing quality in the jar test, and
- be successful in local experience.

The exact composition of suitable products will vary however any Methylated Seed Oil used should contain emulsifiers to provide good mixing

#### **MIXING INSTRUCTIONS**

If tank-mixing with products in PVA bags always allow water soluble packets to dissolve before agitating.

#### **Ground Driven Sprayer:**

- 1. Begin with a clean spray tank. Fill tank one-half to three-quarters full with clean water.
- 2. QUINSTAR TURF herbicide Alone

When using QUINSTAR TURF herbicide alone, either premix (1 part product + 2 parts water) or slowly add QUINSTAR TURF herbicide to the partially filled tank while agitating until completely dispersed. Fill the remainder of the tank with water.

#### 3. QUINSTAR TURF herbicide tank mixes

- a. Wettable Powder Formulations
  - 1. When using QUINSTAR TURF herbicide with a wettable powder formulation, add QUINSTAR TURF herbicide to the partially filled tank while agitating.
  - 2. When QUINSTAR TURF herbicide is properly mixed add a slurry of the wettable powder (1 part WP + 2 parts water) slowly into the tank. Fill the remainder of the tank while agitating.

#### b. Flowable Formulations

- 1. When using QUINSTAR TURF herbicide with a flowable formulation, add QUINSTAR TURF herbicide to the partially-filled tank while agitating.
- 2. When QUINSTAR TURF herbicide is properly mixed, premix one part of the flowable with two parts water and add this diluted mixture slowly into the tank. Fill the remainder of the tank while agitating.

#### c. Emulsifiable Concentrate Formulations

- 1. When using QUINSTAR TURF herbicide with an emulsifiable concentrate formulation, add QUINSTAR TURF herbicide to the partially-filled tank while agitating.
- 2. When QUINSTAR TURF herbicide is properly mixed, premix one part of the emulsifiable concentrate with two parts water and add this diluted mixture slowly into the tank. Fill the remainder of the tank while agitating.
- d. Dry Flowable (Water Dispersible Granule) Formulations
  - 1. When using QUINSTAR TURF herbicide with a dry flowable formulation, add QUINSTAR TURF herbicide to the partially-filled tank while agitating.
  - 2. When QUINSTAR TURF herbicide is properly mixed, premix one part of the dry flowable with two parts water and add this diluted mixture slowly into the tank. Fill the remainder of the tank while agitating.
- 4. MAINTAIN CONTINUOUS AGITATION WHILE ADDING HERBICIDES AND UNTIL SPRAYING IS COMPLETED. If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

#### **Backpack Sprayer:**

Begin with a clean spray tank. Fill the spray tank 1/2 full with clean water and add the required amount of QUINSTAR TURF herbicide to the sprayer. Cap sprayer and agitate to ensure mixing. Uncap sprayer and finish filling tank to desired level. Cap sprayer and agitate once again. During application it is desirable to agitate the mixture on occasion of ensure mixing. If the mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed.

#### **Liquid Fertilizers:**

Prior to mixing, small quantities should always be tested using a simple jar test. Add the required amount of QUINSTAR TURF herbicide to half filled tank while agitating then add the fertilizer product. Complete filling spray tank to desired level.

#### **SPRAYING INSTRUCTIONS**

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 1,000 sq. ft.). Low pressure (e.g., 20-40 psi) sprayers are recommended.

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 or 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 directed.

#### **SPRAY DRIFT MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

Use a standard herbicide boom sprayer that provides uniform and accurate application. For optimum spray distribution and thorough coverage, use flat-fan nozzles.

#### MANDATORY SPRAY DRIFT RESTRICTIONS

- DO NOT apply by air.
- Apply as a medium or coarser spray (ASABE standard S-572.1).
- DO NOT apply when conditions favor drift from target area.
- DO NOT release spray at a height greater than 30 inches above the ground.
- DO NOT apply when wind speeds are greater than 10 mph at the application site.
- DO NOT apply when conditions favor drift from target area.
- QUINSTAR TURF herbicide must be applied as a medium or coarser spray droplet size, as according to ASABE standard S-572.1.

#### **DRIFT REDUCTION ADVISORY INFORMATION**

#### IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions.

#### **CONTROLLING DROPLET SIZE**

- Volume Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure: Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles: Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Type: Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

#### **APPLICATION HEIGHT**

Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### **WIND**

Drift potential is lowest between winds speeds of 2-10 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.

#### **TEMPERATURE AND HUMIDITY**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### **SENSITIVE AREAS**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. 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).

#### **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 recommended label 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: (such as QUINSTAR TURF herbicide) (dry flowables, wettable powders, suspension concentrates, or suspoemulsions). Cap the jar and invert 10 cycles.
- 4. Water-soluble products: (such as Basagran T/O) 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 re-susupended 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.

#### **RESTRICTIONS AND LIMITATIONS**

- DO NOT apply more than 1 pound of QUINSTAR TURF herbicide per acre or 0.367 ounce per 1,000 square feet per application (equivalent to 0.75 pound quinclorac per acre).
- DO NOT apply more than 2 pounds of QUINSTAR TURF herbicide per acre or 0.73 ounces per 1,000 square feet in one year (equivalent to 1.5 pounds quinclorac per acre).
- DO NOT apply to golf course collars or greens
- DO NOT apply to fine fescue unless it is part of a seed blend.
- DO NOT apply to bahiagrass, carpetgrass, St. Augustinegrass, centipedegrass, dichondra, colonial and seaside bentgrass or lawns or turf where desirable clovers are present.
- DO NOT apply within 4 weeks after seedling emergence of Kentucky bluegrass, creeping bentgrass, fine fescue blends and perennial ryegrass.
- DO NOT plant eggplants or tobacco within 12 months in areas treated with this product.
- DO NOT plant tomatoes or carrots within 24 months in areas treated with this product.
- DO NOT apply prior to and within 2 weeks after seeding seashore paspalum.
- 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 use clippings as mulch or compost around flowers, ornamentals, trees, or in vegetable gardens.
- DO NOT apply when wind speeds are greater than 10 mph at the application site as drift may cause damage or death of non-target area vegetation.
- DO NOT apply when conditions favor drift from target area.
- DO NOT allow mist and spray to come in contact with 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 apply through any type of irrigation system.
- DO NOT apply in New York State except by spot treatment only. This product is not for sale, distribution, or use in Nassau and Suffolk counties in New York State.

#### **TURFGRASS TANK-MIXES**

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. To increase spectrum of control of broadleaf weed species, a tank mix with 2,4-D, triclopyr, MCPA, MCPP, Dicamba, or other broadleaf herbicide can be used. For extended residual control, apply QUINSTAR TURF herbicide with pendimethalin herbicides. For sedge control, apply QUINSTAR TURF herbicide with imazaguin, sodium bentazon, or MSMA herbicides.

Combinations with MSMA will aid in control of certain grassy weeds such as bahiagrass or kikuyu grass. Consult tolerant turfgrass species on all labels. Separate applications must be made if all target weeds are not at the correct growth state for treatment at the same time.

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

Before tank-mixing, a simple jar test is recommended to ensure compatibility of herbicides or other pesticide and/or additives. Refer to manufacturers' labels for specific use directions, precautions, and limitations before tank mixing with QUINSTAR TURF herbicide 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, Kentucky	Bermudagrass, Hybrid <sup>1</sup>	Bentgrass, Seaside	
Bluegrass, Annual	Bluegrass, Rough (Poa trivialis)	Bentgrass, Colonial	
Buffalograss	Fescue, Chewing's	Centipedegrass	
Fescue, Tall	Fescue, Fine <sup>2</sup>	Dichondra	
Ryegrass, Annual	Fescue, Hard	St. Augustinegrass	
Ryegrass, Perennial	Fescue, Red	Carpetgrass	
Zoysiagrass	Paspalum, seashore		

<sup>&</sup>lt;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, Additives).

**RESTRICTION:** Do not use on golf course greens and collars.

<sup>&</sup>lt;sup>2</sup>Apply QUINSTAR TURF herbicide to fine fescue only when it is part of a blend.

Table 2. QUINSTAR TURF Application to Established Creeping Bentgrass

Turfgrass Species	Application Rate/Timing	Additive Rate
Bentgrass, Creeping <sup>1</sup>	QUINSTAR TURF herbicide must be applied in 2 - 3 split applications at 0.162 to 0.245 ounces per 1,000 sq. ft. (equivalent to 0.33 - 0.5 pound quinclorac per acre).	at 0.55 fluid ounces per 1,000 sq. ft. (1.5 pints
	Do not exceed a total of 0.73 ounce of product per 1,000 sq. ft. per year (equivalent to 1.5 pound quinclorac per acre).	
	Make sequential application(s) at least 21 days apart.	

<sup>&</sup>lt;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, Additives)

**RESTRICTION:** Do not use on golf course greens and collars.

Table 3. Application Rates and Timing for Postemergence Weed Control in Turf

Weed Species		QUINSTAR TURF Rate	Additive Rate
Grasses Controlled Common Name  Barnyard grass Crabgrass, Large <sup>1,4</sup> Crabgrass, Smooth <sup>1,4</sup> Foxtails, Giant <sup>1</sup> Foxtail, Green <sup>1</sup> Foxtail, Yellow <sup>1</sup> Kikuyugrass <sup>2,3</sup> Signalgrass, Broadleaf <sup>1</sup> Torpedograss <sup>3</sup>	Scientific Name  Echinochloa crusgalli Digitaria sanguinalis Digitaria ischaemum Setaria faberi Setaria viridis Setaria glauca Penniseturn clandestinum Brachiaria platyphylla	Broadcast Applications:  1.0 pound of product per acre or 0.367 ounce per 1,000 square feet.  Spot Applications: Apply 0. 0.367 ounce of	Apply: 1.5 pints per acre (0.55 fluid ounce per 1,000 square feet) methylated seed oil.
Broadleaf Weeds Co	Panicum repens ntrolled Scientific Name	QUINSTAR TURF per 1,000 square feet of treated area.	
Bindweed, Field Clover, Hop Clover, Red Clover, White Dandelion, Common <sup>2</sup> Daisy,English <sup>2, 5</sup> Dollarweed Geranium, Carolina Medic, Black Morningglory spp. Speedwell, Common Speedwell, Slender Speedwell, Thymeleaf Violet, Wild	Convolvulus arvensis Trifolium aureum Pollich Trifolium pratense Trifolium repens Taraxacum officinale Bellis perenne Hydrocotyle umbellata Geranium carolinianum Medicago lupulina Ipomea sp. Veronica officinalis Veronica filiformis Veronica serpyllifolia Viola sp.	Refer to footnotes in Tables 2 and 3 for specific turfgrass or weed instructions.	

(continued)

#### Table 3. Application Rates and Timing for Postemergence Weed Control in Turf (cont.)

<sup>1</sup>Under certain conditions applications of QUINSTAR TURF herbicide made to annual grasses at 2 - 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 QUINSTAR TURF herbicide + methylated seed oil is applied either before second tiller or as weed grasses mature. <sup>2</sup>Tank mix partner or sequential application required.

**RESTRICTION:** <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 Ryegrass	OK	OK	OK	OK	OK
Buffalograss	OK	OK	OK	OK	OK
Common Bermuda <sup>3</sup>	OK	OK	OK	OK	OK
Creeping Bentgrass	OK	NO	NO	NO	OK
Fine Fescue in blend	OK	NO	NO	NO	OK
Hybrid Bermuda <sup>3</sup>	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>	NO	NO	NO	OK	OK

(continued)

<sup>&</sup>lt;sup>3</sup>Make 3 sequential applications of 0.245 ounces of QUINSTAR TURF herbicide per 1,000 square feet at 14 - 21 day intervals.

<sup>&</sup>lt;sup>4</sup>Biotypes of large and smooth crabgrass in California have shown varied response to QUINSTAR TURF herbicide. If control failure occurs following the application of a full or split application rates do not reapply QUINSTAR TURF herbicide, and change to a herbicide with a different mode of action

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

Variety	Before seeding <sup>2</sup>	At Seeding	7 days after emergence	14 days after emergence	28 days after emergence
Tall Fescue	OK	OK	OK	OK	OK
Zoysiagrass <sup>3</sup>	OK	OK	OK	OK	OK

<sup>&</sup>lt;sup>1</sup> **RESTRICTION:** No adjuvant or additive should be used when QUINSTAR TURF herbicide applications are made on newly emerged turf seedlings until 28 days after emergence; with the exception of seashore paspalum, a QUINSTAR TURF application rate of 0.367 oz/1000 sq ft (0.75 lb ai/A) can be made to all other turfgrass species in Table 4.

**Table 5 Spot Spraying with QUINSTAR TURF** 

Spray Mix Volume <sup>1</sup> (gallons)	QUINSTAR TURF Product in Mix (ounces of product)	MSO Adjuvant in Mix (fluid ounces)
1	0.367	0.55
2	0.73	1.1
3	1.1	1.65

<sup>&</sup>lt;sup>1</sup>Apply at the rate of 1 gallon per 1,000 square feet

**NOTES:** For consistent results, make application to newly germinated 1- to 2- leaf crabgrass, to 1-tiller crabgrass and when crabgrass has matured to 5 tillers or greater.\*

<sup>&</sup>lt;sup>2</sup> QUINSTAR TURF herbicide can be applied 7 days or greater prior to seeding.

<sup>&</sup>lt;sup>3</sup> QUINSTAR TURF can be used any time prior to, at, or after sprigging as indicated by turfgrass species in Table 4.

<sup>4 0.18</sup> oz to 0.367 oz/1000 sq ft (0.37 to 0.75 lb ai/A) application can be made at times indicated in Table 4.

<sup>•</sup> Time application of QUINSTAR TURF herbicide around the seeding operations using the above chart as a reference point.

<sup>\*</sup>Under certain conditions, applications of QUINSTAR TURF 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 cool, dry, and well-ventilated areas. Do not store under wet conditions.

**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:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**Triple rinse non-refillable ≤ 50 pounds as follows:** Empty the remaining contents into application equipment or a mix tank. 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.

**Triple rinse non-refillable > 50 pounds as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank. 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.

#### **CONDITIONS OF SALE AND WARRANTY**

The Directions For Use of this product reflect the opinion of experts based on research and field use. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, herbicide resistant weed populations, or the use of, or application of the product contrary to label instructions, all of which are beyond the control of Albaugh, LLC or the Seller. All such risks shall be assumed by the Buyer. Albaugh, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes described in the Directions For Use, subject to the risks referred to above.

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