

POSTEMERGENCE CONTROL OF WEEDS IN WARM SEASON TURF - ANNUAL BLUEGRASS CONTROL

General Information

INTEGRATED PEST MANAGEMENT

Makhteshim Agan of North America, Inc. (MANA) recommends the use of Integrated Pest Management (IPM) programs to control pests. Quali-Pro Rimsulfuron 25 DF may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of Quali-Pro Rimsulfuron 25 DF should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control to these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide-resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, re-treatment, tank mix partners, and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to

help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

Naturally occurring weed biotypes that are resistant to other herbicides in the sulfonyleurea chemical family such as Amber herbicide, DuPont Ally herbicide, DuPont Glean FC herbicide, DuPont Express herbicide, DuPont Harmony Extra herbicide, DuPont Finesse

herbicide, or DuPont Matrix will also be resistant to Quali-Pro Rimsulfuron 25 DF since it is also a member of the sulfonyleurea chemical family of herbicides.

INFORMATION

Quali-Pro Rimsulfuron 25 DF must be used only in accordance with directions on the label or in separate published MANA directions. MANA will not be responsible for losses or damage resulting from use of this product in any manner not specifically directed by MANA.

Formulation: Quali-Pro Rimsulfuron 25 DF is a dry flowable formulation containing 25% active ingredient by weight. It is noncorrosive to equipment, nonflammable, and nonvolatile. Continuous agitation is required to maintain the product in suspension in the spray tank. For best results, the spray tank solutions of Quali-Pro Rimsulfuron 25 DF should be maintained at pH 5 to 7. Degradation of Quali-Pro Rimsulfuron 25 DF may occur if it is used in a spray solution or with spray additives that buffer pH to below 4 or above 8.

Quali-Pro Rimsulfuron 25 DF controls weeds along roadsides, in highway medians, at industrial plant sites, and at utility substations when applied at 4 ounces product per acre. In warm-season turfgrass such as Bermudagrass, centipedegrass, and zoysiagrass, Quali-Pro Rimsulfuron 25 DF controls annual bluegrass and other weeds at 0.5 to 2 ounces product per acre.

Mode of Action: Quali-Pro Rimsulfuron 25 DF contains rimsulfuron which belongs to the sulfonyleurea chemical family of herbicides. Herbicides in this family inhibit branched-chain amino acid synthesis in plants. Quali-Pro Rimsulfuron 25 DF is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. For preemergence weed control, rainfall or sprinkler irrigation is

needed to move Quali-Pro Rimsulfuron 25 DF into the soil. Weeds will not emerge from preemergence applications. In some cases, however, susceptible weeds may germinate and emerge a few days after application, but growth then ceases and leaves become chlorotic three to five days after emergence. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm, moist conditions, the expression of herbicide symptoms is accelerated; in cold, dry conditions, expression of herbicide symptoms is delayed. Death of leaf tissue and growing point will follow in some species, while others will remain green but stunted and noncompetitive.

Best weed control is attained when Quali-Pro Rimsulfuron 25 DF is applied in vigorously growing crops that shade competitive weeds. Reduced weed control may result, however, when the crop canopy is too dense and some of the spray is intercepted by the crop and it fails to reach the weeds. In addition, reduced weed control may result where the crop canopy is not as dense due to a thin crop stand or seeding skips and there is less shade.

The herbicidal action of Quali-Pro Rimsulfuron 25 DF may be less effective on weeds stressed from adverse environmental conditions (such as extreme temperatures or moisture), abnormal soil conditions, or cultural practices. In addition, weeds hardened-off by drought stress are less susceptible to Quali-Pro Rimsulfuron 25 DF.

Postemergence weed control may be reduced if rainfall occurs soon after application. Several hours of dry weather are needed to allow Quali-Pro Rimsulfuron 25 DF to be sufficiently absorbed by weed foliage (Quali-Pro Rimsulfuron 25 DF is rainfast in 4 hours).

Application Timing: The best weed control is obtained when Quali-Pro Rimsulfuron 25 DF is applied to young, actively growing weeds. The degree and duration of control may depend on (a) weed spectrum and infestation intensity, (b) weed size at application, and (c) environmental conditions at and following treatment.

For maximum preemergence activity prior to application, the bed or soil surface should be smooth and relatively free of crop and weed trash (dead weeds, decaying leaves, clippings, etc.). Leaves and trash may be removed by blowing the area to be

treated or by thoroughly mixing the trash into the soil through cultivation prior to herbicide application. Cultural practices that result in redistribution or disturbance of the soil surface after treatment will decrease the herbicidal effectiveness of Quali-Pro Rimsulfuron 25 DF. Cutting water furrows or cultivations that mix untreated soil into the treated areas will also reduce the effectiveness of the herbicide treatment.

For best weed management, apply Quali-Pro Rimsulfuron 25 DF with another suitable residual herbicide registered for that crop. This is recommended for all soil types, but especially for coarse-textured soils under standard sprinklers or micro-sprinklers.

More than one banded application of Quali-Pro Rimsulfuron 25 DF may be needed to provide extended weed control.

Note: See the APPLICATION INFORMATION section under each crop for directions on application timing specific to each crop use of Quali-Pro Rimsulfuron 25 DF.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, weeds that were beyond the maximum size at application, or weeds that emerge after an application of Quali-Pro Rimsulfuron 25 DF. For preemergence applications, cultivation is not recommended for 7 days after an application in order to allow Quali-Pro Rimsulfuron 25 DF to fully control treated weeds. After postemergence application of Quali-Pro Rimsulfuron 25 DF, the optimum timing for cultivation is 7 to 14 days. Cultivation up to 7 days before the postemergence application of Quali-Pro Rimsulfuron 25 DF may decrease weed control by pruning weed roots, placing the weeds under stress or covering the weeds with soil and preventing coverage by Quali-Pro Rimsulfuron 25 DF.

PRECAUTIONS AND RESTRICTIONS

PRECAUTIONS

- Carefully observe sprayer cleanup instructions, as spray tank residue may damage other crops.
- Thoroughly clean application equipment immediately after use of Quali-Pro Rimsulfuron 25 DF. (See the Equipment Cleanup section of the label for instructions.)

- Avoid spray drift to any adjacent crops, planned planting areas, and desirable plants, as injury may occur.
- For best results, maintain spray tank solution at pH 5 to 7.
- Preemergence use on soils containing more than 6% organic matter may not provide adequate soil residual weed control and may result in reduced weed control.
- If sprinklers are used for frost protection, delay the application of Quali-Pro Rimsulfuron 25 DF until stress from environmental conditions has passed.
- Crop injury may occur following an application of Quali-Pro Rimsulfuron 25 DF if there is a prolonged period of cold weather and/or cold weather in conjunction with wet soils caused by poor drainage or excessive use of sprinkler irrigation for frost protection.
- Crop varieties/cultivars may differ in their response to various herbicides. MANA recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of Quali-Pro Rimsulfuron 25 DF to a small area.
- Crops (especially crops other than pome fruit, tree nuts, stone fruit, citrus, grapes, potatoes, tomatoes, and field corn) whose roots extend into a treated area may be injured.
- If tank mixing Quali-Pro Rimsulfuron 25 DF with another herbicide, check to see if the selected companion herbicide has a ground or surface water advisory. If it does, consider the advisory when using the companion herbicide.
- Tank mixing Quali-Pro Rimsulfuron 25 DF with organophosphate insecticides in some crops may result in crop injury.

RESTRICTIONS

- Do not apply or drain or flush equipment containing Quali-Pro Rimsulfuron 25 DF on or near desirable trees or other plants, on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Trees or other desirable plants whose roots extend into a treated crop use area may be injured.
- Do not contaminate any body of water including irrigation water that may be used on other crops.
- Do not apply in or on irrigation canals or ditches including their outer banks.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Do not apply to frozen or snow-covered soil. Crop injury may occur from applications made to poorly drained soils.
- Do not apply using Air-Assisted (Air Blast) field crop sprayers.
- Do not apply by air in the state of NY. Do not apply by air in the state of CA.
- Do not graze or feed forage, grain, or fodder (stover) from treated areas to livestock within 30 days of Quali-Pro Rimsulfuron 25 DF application.

Note: See also the specific crop uses below for additional crop-specific precautions and restrictions for use of Quali-Pro Rimsulfuron 25 DF.

IMPORTANT: Quali-Pro Rimsulfuron 25 DF is recommended for use in most states. Check with your agricultural dealer, state cooperative extension service, or Department of Agriculture before use to be certain Quali-Pro Rimsulfuron 25 DF is registered in your state. Read the entire Use Directions and Limitation of Warranty and Liability before using Quali-Pro Rimsulfuron 25 DF.

State Specific Restrictions:

- The state of Arizona has not approved this product for use on agricultural commodities. If grown for commercial production, use on the following sites/crops is prohibited: warm-season turf grown for seed or sod.

Limitations, Restrictions, and Exceptions

POSTEMERGENCE CONTROL OF WEEDS IN WARM SEASON TURF NOT REGISTERED

FOR USE ON POSTEMERGENCE CONTROL OF WEEDS IN WARM SEASON TURF IN CALIFORNIA UNLESS ACCOMPANIED BY A SUPPLEMENTAL LABEL.

GENERAL INFORMATION

Quali-Pro Rimsulfuron 25 DF is noncorrosive to equipment, nonflammable, and nonvolatile.

Control of weeds with Quali-Pro Rimsulfuron 25 DF requires approximately 3 to 4 weeks, but weed growth ceases soon after application. Quali-Pro Rimsulfuron 25 DF temporarily suppresses growth of Tifway bermudagrass. This is a growth regulator effect. Delayed green-up of bermudagrass in the spring has not been observed. This is typically followed by a flush of growth within 3 to 4 weeks. Some slight yellowing of bermudagrass may occur and last for approximately 7 days.

Quali-Pro Rimsulfuron 25 DF is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. Rainfall or sprinkler irrigation is needed to move Quali-Pro Rimsulfuron 25 DF into the soil. In some cases, susceptible weeds may germinate and emerge a few days after application; but, growth then ceases and leaves become chlorotic 3 to 10 days after emergence. Death of leaf tissue and growing point will follow in some species; in other species, the seedling may remain green but be stunted in growth and remain noncompetitive.

One to three weeks after postemergence application to weeds, leaves of susceptible plants appear chlorotic, and the growing point subsequently dies. In warm moist conditions, the expression of herbicide symptoms is accelerated. In cold dry conditions, expression of herbicide symptoms may be delayed. Death of leaf tissue and growing point will follow in some species; in other species, the seedling may remain green but be stunted in growth and remain noncompetitive.

The herbicidal action of Quali-Pro Rimsulfuron 25 DF may be less effective on susceptible species stressed from environmental conditions (such as extreme temperature or moisture), abnormal soil conditions (saturated or waterlogged soils), or cultural practices. In addition, weeds hardened off by drought stress are less susceptible to Quali-Pro Rimsulfuron 25 DF.

Under cold conditions, Quali-Pro Rimsulfuron 25 DF activity is delayed and takes longer to control weeds. In order to achieve faster control in cold conditions,

increase the rate to 2 ounces per acre.

Lateral movement and tracking have been observed in heavier clay soils which are characterized by low water infiltration rates. These problems can be significantly reduced by use of short, frequent irrigation cycles. A minimum of three irrigation cycles is recommended in order to move Quali-Pro Rimsulfuron 25 DF from the turf and weed canopy into the soil. These irrigation cycles should be applied prior to allowing foot or equipment traffic into treated areas.

The use of a soil wetting agent may be beneficial in both clay and sandy soils. Where slopes are severe, mechanical aerification prior to spraying may help water penetrate into the soil and move Quali-Pro Rimsulfuron 25 DF into the soil profile.

Never depend solely upon rainfall to move Quali-Pro Rimsulfuron 25 DF into the soil. Rainfall is unpredictable and if heavy enough will move Quali-Pro Rimsulfuron 25 DF laterally. Some foliar uptake may have to be sacrificed when foot and/or equipment traffic is imminent soon after Quali-Pro Rimsulfuron 25 DF application. Begin irrigation regime 1 hour following Quali-Pro Rimsulfuron 25 DF application.

Extreme caution should be used when applying this product to slopes of heavy or clay soils that drain onto bentgrass greens, overseeded greens, fairways, or tees. Do not apply to slopes that drain directly onto soil or "push up" bentgrass greens. Tracking and lateral movement onto bentgrass putting greens rarely results in death to bentgrass. Some off color and growth regulator effects have been observed for approximately 14 days. This effect may last longer on non-USGA (sand greens) or during periods of cool weather or on green maintained at low nitrogen levels. Fertilization with liquid fertilizer can help speed bentgrass recovery. The addition of a product containing gibberellic acid may also be beneficial. Application of activated charcoal around and/or on the perimeter of bentgrass putting greens has also been effective in reducing injury potential.

APPLICATION INFORMATION

III. Annual Bluegrass Control Prior to Overseeding Bermudagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas with Perennial Ryegrass or *Poa trivialis*

General comments and precautions: Annual bluegrass control will be reduced in

areas where “early overseeding” is practiced. Also, applying Quali-Pro Rimsulfuron 25 DF earlier than 2 weeks prior to normal overseeding times will result in reduced annual bluegrass control. Avoid mechanical disturbance (aeration, verticutting, etc.) of the turf, thatch, and/or soil layer after Quali-Pro Rimsulfuron 25 DF application or annual bluegrass control may be reduced. Avoid application to wet and/or waterlogged putting greens. Allow at least 72 hours for drying on waterlogged putting greens before applying Quali-Pro Rimsulfuron 25 DF.

Stressed bermudagrass turf growing in shaded areas, waterlogged soil, or under other environmental stress (such as nematodes) may exhibit more discoloration or chlorosis following application of Quali-Pro Rimsulfuron 25 DF. Do not apply Quali-Pro Rimsulfuron 25 DF after overseeding, except as directed for removal of overseeded grasses.

Non-putting green bermudagrass: Apply Quali-Pro Rimsulfuron 25 DF at 1 to 2 ounces per acre 10 to 14 days prior to overseeding perennial ryegrass and/or *Poa trivialis*. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. Occasional stunting of the overseeded perennial ryegrass and/or *Poa trivialis* may occur, but symptoms disappear in approximately 7 days. Cultural practices and favorable environmental conditions that allow for maximum germination of annual bluegrass prior to application of Quali-Pro Rimsulfuron 25 DF increase the degree of control.

Apply 3 to 5 light irrigation cycles approximately 2 to 4 hours after application of Quali-Pro Rimsulfuron 25 DF to dislodge Quali-Pro Rimsulfuron 25 DF from the turf canopy. Apply enough irrigation water to penetrate the soil, but do not allow the water to sheet or move laterally onto sensitive areas.

Restrictions to Use of Quali-Pro Rimsulfuron 25 DF for Postemergence Weed Control in Warm Season Turf

- Do not apply to residential lawns.
- Do not apply an organophosphate insecticide or nematicide within 7 days of a Quali-Pro Rimsulfuron 25 DF application as injury potential to the desired grass may increase.
- Do not apply to newly sprigged or sodded bermudagrass.

- Do not apply if wind speed becomes excessive; spray drift can occur at wind speeds greater than 10 mph. If sensitive species are downwind, extreme caution must be used. If conditions for spray drift exist, use a spray shield.
- Do not apply if winds are gusty.
- Do not apply this product through any type of irrigation system.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

[field_rates 0](#)

-

Restricted Entry Interval

4 hours

Timings

[Postemergence \(Weed\)](#)