

# QUALI-PRO



## Rimsulfuron 25 DF

*Dry Flowable Herbicide*

For weed control along Roadsides and Highway Medians, at Industrial Plant Sites and Utility Substations, and in Warm Season Turf

Contains rimsulfuron, the active ingredient used in TranXit®. Quali-Pro Rimsulfuron 25 DF is not manufactured or distributed by DuPont™.

<b>ACTIVE INGREDIENT:</b>	<b>% BY WT.</b>
Rimsulfuron: N-((4,6-dimethoxypyrimidin-2-yl)aminocarbonyl)-3-(ethylsulfonyl)-2-pyridinesulfonamide .....	25.0%
<b>OTHER INGREDIENTS</b> .....	<u>75.0%</u>
<b>TOTAL</b> .....	<b>100.0%</b>

EPA Reg. No. 66222-184

EPA Est. No. 53883-TX-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). For additional precautionary, handling, and use statements, see inside of this booklet.

Manufactured for:

**Makhteshim Agan of North America, Inc.**

3120 Highwoods Blvd Suite 100 Raleigh, NC 27604

**Net Contents: 5 Ounces**

12914

EPA 050511/Notif 101311/Rev C



**FIRST AID**

<b>IF IN EYES:</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye. Call a poison control center or doctor for treatment advice.
<b>IF ON SKIN OR CLOTHING:</b>	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.
<b>IF SWALLOWED:</b>	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.
<b>IF INHALED:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably 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. You may also contact Prosar at 1-877-250-9291 for emergency medical treatment information.

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION!** Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with skin, eyes, and clothing. Avoid breathing dust or spray mist.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some of the materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride
- Shoes plus socks

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product.

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 STATEMENTS**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR Part 170 Section 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **USER SAFETY RECOMMENDATIONS**

##### **USERS SHOULD:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

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 when cleaning equipment or disposing of equipment washwaters or rinsate.

## **DIRECTIONS FOR USE**

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

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 area during application. For any requirements specific to your State or Tribe, consult the agency in your State 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 4 hours.

(continued)

**AGRICULTURAL USE REQUIREMENTS** (continued)

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, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride
- Shoes plus socks

**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.

## 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 is responsible for considering all these factors when making application decisions. To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Where states have more stringent regulations, they should be followed. Additional information may be available from state enforcement agencies or the state cooperative extension service on spray drift management.

### **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. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions! See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label. Controlling Droplet Size – Techniques

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use a higher capacity nozzle instead of increasing pressure.
- **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.

#### **Controlling Droplet Size - Aircraft**

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid-stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - The boom length should not exceed 3/4 of the wing or rotor length – longer booms increase drift potential.

- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

### **Boom Height**

Setting the boom at the lowest referenced height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

### **Wind**

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given wind speed. Avoid gusty and windless conditions. It is important that every applicator be familiar with local wind patterns and how they affect spray drift because local terrain can influence wind patterns.

### **Temperature and Humidity**

When making applications in hot and dry conditions, set up the spray equipment to produce large droplets to reduce the effects of evaporation.

### **Temperature Inversions**

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **Shielded Sprayers**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

### **CHEMIGATION APPLICATION**

Do not apply Quali-Pro Rimsulfuron 25 DF through any type of irrigation system.

### **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 sulfonylurea 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 sulfonylurea chemical family of herbicides.

## INFORMATION

Quali-Pro Rimsulfuron 25 DF must be used only in accordance with directions on this 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 sulfonylurea 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 below under each crop for directions on application timing specific to each crop use of Quali-Pro Rimsulfuron 25 DF.

#### **SPRAY ADJUVANTS**

A spray adjuvant must be added with each application of Quali-Pro Rimsulfuron 25 DF when applied by itself and postemergence to the weeds. Consult your local agricultural dealer, applicator, crop consultant, state cooperative extension service, or MANA fact sheets, technical bulletins, and service policies prior to using an adjuvant system. If another herbicide is tank mixed with Quali-Pro Rimsulfuron 25 DF, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients (40 CFR 1001).

### **Nonionic Surfactant (NIS)**

- Apply 0.125 to 0.25% v/v (1 to 2 pints per 100 gallons of spray solution). The higher 0.25% v/v rate should be used under arid or drought conditions.
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

### **Petroleum Crop Oil Concentrate (COC) or Modified Seed Oil (MSO)**

- Apply at 1% v/v (1 gallon per 100 gallons of spray solution).
  - Oil adjuvants must contain at least 80% high quality petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
  - Blended products which contain both MSO and silicone are acceptable at labeled rates.
- Ammonium Nitrogen Fertilizer**
- An ammonium nitrogen fertilizer may be added to the spray mix in addition to a COC or NIS but is not required to optimize performance of Quali-Pro Rimsulfuron 25 DF.
  - Use 2 quarts per acre of a high quality urea ammonium nitrate (UAN) such as 28%N or 32%N or 2 pounds per acre of a spray-grade ammonium sulfate (AMS). Use 4 quarts per acre UAN or 4 pounds per acre AMS under arid conditions.

- Do not use liquid nitrogen fertilizer as the total carrier solution. Special Adjuvant Types
- Combination adjuvant products may be used with Quali-Pro Rimsulfuron 25 DF at doses that provide the required amount of NIS, COC, MSO, and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions.
- In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality. Consult your local agricultural dealer, applicator, crop consultant, state cooperative extension service, or MANA fact sheets and technical bulletins prior to using an adjuvant system not specified on this label.

#### **Adjuvant Precautions**

- The use of silicone polymer-type surfactants is not suggested, as reduced weed control may result.

**Note:** More specific directions for use of spray adjuvants with Quali-Pro Rimsulfuron 25 DF are provided below under specific crop uses.

## SPRAY EQUIPMENT, CLEANUP, AND MIXING INSTRUCTIONS

**Equipment:** For specific application equipment, refer to the manufacturer's recommendations for additional information on GPA, pressure, speed, nozzle types and arrangements, nozzle heights above the target canopy, etc. Air and ground equipment should be properly calibrated with clean water before making an application of Quali-Pro Rimsulfuron 25 DF. Thorough coverage is required for best weed control. The spray delivery system should provide a uniform spray pattern with a minimum of drift.

Avoid spray drift onto nontarget sites by using properly calibrated equipment, appropriate spray volumes for the crop, and avoiding an application during inclement weather conditions that favor spray drift. For additional information on spray drift, refer to the **SPRAY DRIFT MANAGEMENT** section of this label.

**Equipment Cleanup:** The spray equipment must be cleaned and free of previous pesticide deposits before Quali-Pro Rimsulfuron 25 DF is mixed and used. Follow the cleanup procedures specified on the labels of the previously applied products. If no cleanup directions are provided, follow the steps provided below for cleaning up after spraying Quali-Pro Rimsulfuron 25 DF. Thoroughly clean all mixing and spray equipment immediately following applications of Quali-Pro Rimsulfuron 25 DF to avoid subsequent crop injury.

When cleaning spray equipment before mixing Quali-Pro Rimsulfuron 25 DF, read and follow label directions for proper rinsate disposal of the product previously sprayed. Steam cleaning spray tanks is recommended prior to the cleanout procedure outlined below to facilitate the removal of any caked pesticide deposits.

When multiple loads of Quali-Pro Rimsulfuron 25 DF are applied or when mixing and spraying equipment will be used over an extended period to apply multiple loads of Quali-Pro Rimsulfuron 25 DF, it is recommended that at the end of each day of spraying the interior of the tank be rinsed with fresh water, flush the boom and hoses, and then partially fill the tank and allow to sit overnight. This will prevent the buildup of dried pesticide deposits from accumulating in the application equipment.

#### **After Spraying Quali-Pro Rimsulfuron 25 DF and Before Spraying Other Crops**

1. Drain the tank and thoroughly rinse spray tanks, boom, and hoses with clean water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia\* (contains at least 3% active ingredient) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning

solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution and then drain the tank.

3. Remove the nozzles and screens and clean separately in a bucket containing ammonia\* and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) listed on this label. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.

\* Equivalent amounts of an alternate-strength ammonia solution or a MANA-approved spray equipment cleaner can be used in the cleanup procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or MANA representative for a listing of approved spray equipment cleaners for use with Quali-Pro Rimsulfuron 25 DF.

#### **Additional Notes for Cleanup**

1. Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.

2. When Quali-Pro Rimsulfuron 25 DF is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.
3. In addition to this cleanout procedure, all preapplication cleanout guidelines on subsequently applied products should be followed as per the individual labels.
4. Where routine spraying practices include shared equipment frequently being switched between applications of Quali-Pro Rimsulfuron 25 DF and applications of other pesticides to crops sensitive to Quali-Pro Rimsulfuron 25 DF during the same spray season, it is recommended that a sprayer be dedicated to Quali-Pro Rimsulfuron 25 DF to further reduce the chance of crop injury.

**Mixing Instructions:** It is very important that the spray equipment is clean and free of previous pesticide deposits before mixing Quali-Pro Rimsulfuron 25 DF. Follow these steps when mixing a spray solution with Quali-Pro Rimsulfuron 25 DF:

1. Fill the tank 1/4 to 1/3 full of water.
2. While agitating, add the required amount of Quali-Pro Rimsulfuron 25 DF.
3. Continue agitation until the Quali-Pro Rimsulfuron 25 DF is fully dispersed, at least 5 minutes.
4. Once the Quali-Pro Rimsulfuron 25 DF is fully dispersed, maintain agitation and continue filling

tank with water. Quali-Pro Rimsulfuron 25 DF should be thoroughly mixed with water before adding any other material.

5. As the tank is filling, add tank mix partners (if desired); then add the required amount of spray adjuvant (if needed). Always add the spray adjuvant last.
6. If the mixture is not continuously agitated, settling will occur. If settling occurs, thoroughly reagitrate before using.
7. Apply Quali-Pro Rimsulfuron 25 DF spray mixture within 48 hours of mixing to avoid product degradation.
8. If Quali-Pro Rimsulfuron 25 DF and tank mix partner are to be applied in multiple loads, pre-slurry the Quali-Pro Rimsulfuron 25 DF in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of the Quali-Pro Rimsulfuron 25 DF.

Do not use Quali-Pro Rimsulfuron 25 DF in a spray solution or with spray additives that change the pH to below 4 or above 8, or Quali-Pro Rimsulfuron 25 DF degradation may occur. (See the Formulation section above for more information.)

## TANK MIXTURES

In order to broaden the weed control spectrum and/or extend the residual effectiveness of Quali-Pro Rimsulfuron 25 DF, it may be used in tank mixtures with registered herbicides affecting a different site of action (mode of action) and/or adjuvants registered for use on the crops listed on the Quali-Pro Rimsulfuron 25 DF labeling. If the selected companion herbicide has a ground or surface water advisory, consider this advisory when using the companion herbicide. Quali-Pro Rimsulfuron 25 DF may also be used in other tank mixtures with insecticides and fungicides. In all cases when using tank mixtures with Quali-Pro Rimsulfuron 25 DF, refer to the label(s) of the tank mix partner(s) for additional use instructions or restrictions.

**Note:** See the individual crop use directions below for specific information, precautions, and restrictions on tank mixtures with 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 this 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.

**WEED CONTROL ALONG ROADSIDES, HIGHWAY MEDIANS, AT INDUSTRIAL PLANT SITES, AND AT UTILITY SUBSTATIONS (NOT REGISTERED FOR THESE USES IN NEW YORK STATE)**

**INFORMATION**

Quali-Pro Rimsulfuron 25 DF may be used in weed management programs along roadsides, highway medians, at industrial plant sites, and utility substations for control of a number of grass and broadleaf weeds. Where food and/or feed crops are grown or in areas where food and/or feed crops are planned to be grown, care should be taken to prevent any direct spray of Quali-Pro Rimsulfuron 25 DF onto or to drift to these crops or planned planting areas since severe crop injury may occur.

**APPLICATION INFORMATION**

Apply Quali-Pro Rimsulfuron 25 DF at 4 ounces per acre in a broadcast application making sure that coverage is uniform. Use a minimum of 10 gallons of spray solution per acre. Nozzle selection should meet manufacturer's spray volume and pressure recommendations for preemergence or postemergence herbicide applications.

**Preemergence:** Quali-Pro Rimsulfuron 25 DF must be activated by rainfall and applied when soil temperatures are cool for best preemergence and residual activity. Make applications to take advantage of normal rainfall patterns (minimum of 1/2 inch) and cooler temperatures. For best results, moisture for activation should occur within 2 to 3 weeks after application. To provide a

broader spectrum of residual weed control, Quali-Pro Rimsulfuron 25 DF may be applied in a tank mixture with other registered preemergence herbicides. When weeds are present at application, include a labeled burndown herbicide such as glyphosate, paraquat, or glufosinate with an appropriate adjuvant. When applied according to the use directions, Quali-Pro Rimsulfuron 25 DF will provide residual (preemergent) control of the following weeds:

#### **PREEMERGENCE**

##### **GRASSES**

Barnyardgrass  
Crabgrass, Large  
Foxtails (Giant, Green, Yellow)

##### **BROADLEAVES**

Filaree, Redstem  
Fleabane, Hairy  
Mallow, Common  
Marestail/horseweed 1  
Mustard, Black  
Pigweeds (Redroot, Smooth)  
Puncturevine

<sup>1</sup> Naturally occurring resistant biotypes of this weed are known to exist in some areas of the U.S. Quali-Pro Rimsulfuron 25 DF will not control these biotypes.

**Postemergence:** For best results, make postemergence applications of Quali-Pro Rimsulfuron 25 DF to young, actively growing weeds and include a spray adjuvant. Refer to the label of the tank mixture partner(s) for any additional use instructions or restrictions. Follow the most restrictive labeling of any of the tank mix component products.

### **Tank Mixtures**

Quali-Pro Rimsulfuron 25 DF may be tank mixed with other herbicides registered for use along roadsides, highway medians, at industrial plant sites, and utility substations. It may also be tank mixed with any adjuvants registered for roadside, plant site, or utility substation use. Refer to the label of the tank mix partner(s) for any additional use instructions or restrictions.

### **Restrictions to Use of Quali-Pro Rimsulfuron 25 DF Along Roadsides, Highway Medians, at Industrial Plant Sites, and Utility Substations**

- Do not apply more than 4 ounces of Quali-Pro Rimsulfuron 25 DF per acre per year.
- Do not mix in spray solution or with spray additives that buffer the pH to below 4 or above 8, as degradation of Quali-Pro Rimsulfuron 25 DF may occur.
- Do not apply in or on irrigation canals or ditches including their outer banks.
- Do not contaminate any body of water including irrigation water that may be used on other crops.

**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.**

**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 aeration 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

### I. Control of Annual Bluegrass Infesting Non-Overseeded Bermudagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas

**Comments and precautions:** Do not allow spray droplet drift to contact desirable ryegrasses, bentgrasses, bluegrasses, fescues, or ornamental shrubs, trees, or flowers. Annual bluegrass (*Poa annua* var. *annua*) is controlled with Quali-Pro Rimsulfuron 25 DF. The degree of control for the perennial (*Poa annua* var. *reptans*) has not been fully determined. The perennial biotypes/ecotypes are primarily confined to bentgrass putting greens where Quali-Pro Rimsulfuron 25 DF cannot be used.

**Non-putting green bermudagrass not overseeded:** Apply Quali-Pro Rimsulfuron 25 DF at 1 to 2 ounces per acre in November/December and again in February/March if necessary. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. Use the higher rate on areas with large plants and high annual bluegrass populations.

**Putting green bermudagrass not overseeded:** Apply Quali-Pro Rimsulfuron 25 DF at a rate of 1 ounce per acre to annual bluegrass that is no larger than one inch in diameter. Bermudagrass that is not fully dormant may show some yellowing. Repeat applications as needed on a 3-week schedule, but do not exceed a total of 4 applications.

**II. Removal of Perennial Ryegrass and *Poa trivialis* (Rough Bluegrass) from Bermudagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas**

**Comments and precautions:** Perennial ryegrass is more sensitive to Quali-Pro Rimsulfuron 25 DF than *Poa trivialis* (Rough Bluegrass). Repeat applications of Quali-Pro Rimsulfuron 25 DF made at lower rates are more efficacious than a single large application. Perennial ryegrass and *Poa trivialis* growing in high density seedlings and maintained at low mowing heights are more sensitive to Quali-Pro Rimsulfuron 25 DF than individual plants growing as unmowed clumps. Putting green bermudagrass cultivars that have shown tolerance to Quali-Pro Rimsulfuron 25 DF include: Tifdwarf, TifEagle, Floradwarf, Mississippi Supreme, and Champion.

**Non-putting green bermudagrass:** Apply Quali-Pro Rimsulfuron 25 DF at 0.5 to 2 ounces per acre in the spring months 3 to 4 weeks before the desired date for overseed removal. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. Use of the higher rate and repeat applications may be necessary for complete removal of *Poa trivialis*.

**Putting green bermudagrass:** Apply Quali-Pro Rimsulfuron 25 DF at 0.5 to 1 ounce per acre 3 weeks before the desired date for overseed removal. Add a NIS at 0.25% v/v and apply in 15 to 60 gallons of water per acre. The lower rate of Quali-Pro Rimsulfuron 25 DF can be used for slower transition. Three applications of Quali-Pro Rimsulfuron 25 DF at the 0.5 ounce per acre rate or 2 applications at the 1 ounce per acre rate are required for removal of *Poa trivialis*.

### **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***

**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.

**Putting green bermudagrass:** Apply 2 ounces of Quali-Pro Rimsulfuron 25 DF per acre without an adjuvant 10 to 14 days prior to overseeding golf putting greens for control of emerged annual bluegrass. Irrigate within 2 to 4 hours of application and continue a routine irrigation schedule. For putting greens growing in the shade, under waterlogged conditions, or other environmental stresses such as nematodes, and to help reduce potential of bermudagrass injury, apply 1 ounce of Quali-Pro Rimsulfuron 25 DF 3 weeks prior to overseeding and apply another 1 ounce 1 week prior to overseeding.

#### **IV. Weed Control in Centipedegrass and Zoysiagrass on Sod Farms, Seed Farms, Golf Courses, Professionally Managed College and Professional Sports Fields, Industrial and Commercial Lawns, and Other Similar Nonresidential Areas**

**Comments and precautions:** Tolerance of the majority of cultivars of centipedegrass and zoysiagrass to Quali-Pro Rimsulfuron 25 DF have not been fully investigated. It is known

that Emerald, Zenith, and Meyer cultivars of zoysiagrass have shown tolerance to Quali-Pro Rimsulfuron 25 DF similar to that of bermudagrass. Cultivars of centipedegrass have exhibited moderate tolerance. The effects of Quali-Pro Rimsulfuron 25 DF on these turfgrasses during transition have not been fully evaluated.

**Dormant and non-dormant turf:** Apply 1 to 2 ounces of Quali-Pro Rimsulfuron 25 DF per acre for weed control. Some chlorosis of the turf may occur following application. Use the lower rate with repeat applications for weed control in centipedegrass.

Quali-Pro Rimsulfuron 25 DF will control the following cool-season weed species: annual bluegrass, blue-eyed grass, wild carrots, little barley, ryegrass, tall fescue, rough bluegrass, common chickweed, shepherdspurse, cutleaf evening primrose, henbit, and field pansy. Quali-Pro Rimsulfuron 25 DF will control the following warm-season weed species: spotted spurge, dollarweed, and suppression of some sedge species.

**Use on bentgrass fairways:** Apply Quali-Pro Rimsulfuron 25 DF at 0.125 to 0.03 ounce per acre for weed control. Sequential applications should be made 3 to 4 weeks after the initial application to achieve the desired weed control.

### **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.

### **STORAGE AND DISPOSAL**

Do not contaminate water, foodstuffs, feed, or seed by storage and disposal. PESTICIDE STORAGE: Store product in original container only. 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: Nonrefillable Container (flexible-bag-all weights): Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Nonrefillable Container (rigid-fifty lbs. or less): Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

### **LIMITATION OF WARRANTY AND LIABILITY**

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES** and **LIMITATIONS OF LIABILITY**.

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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