

**QUALI-PRO**<sup>®</sup>

# DITHIOPYR L

Specialty Herbicide



Pre-emergence and Early Post-emergence Herbicide for Weed Control in Established lawns, Commercial sod farms, Non-cropland and Industrial Sites, Ornamental Turf (including Golf Course Fairways, Roughs, Tee Boxes), Container-grown Ornamentals, Field-grown Ornamentals, and Landscape Ornamentals

**ACTIVE INGREDIENT:**

Dithiopyr: S, S'-dimethyl 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-3,5-pyridinedicarbothioate..... 22.0%

**OTHER INGREDIENTS:**..... 78.0%

**TOTAL:** .....100.0%

Contains 1.9 lbs active ingredient per gallon or 229 grams per liter.

**NET CONTENTS:  
1 GALLON**

**KEEP OUT OF REACH OF CHILDREN  
WARNING / AVISO**

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

EPA Reg. No. 53883-399

EPA Est No. 37429-GA-001



ADAMA

Manufactured for:

**Control  
Solutions Inc.**

5903 Genoa-Red Bluff, Pasadena, TX 77507

A member of Adama  
Consumer and Professional Solutions

<b>FIRST AID</b>	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall® at (866) 897-8050 for emergency medical treatment information.</p>	

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

**WARNING:** Causes substantial but temporary eye injury. Harmful if absorbed through skin. Do not get in eyes, on skin, or on clothing. 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. Wear protective eyewear (goggles, face shield, or safety glasses), long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Some materials that are chemical-resistant to this product are listed below.

**WPS Uses:**

**Applicators and other handlers** who handle this product for any use covered by the Worker Protection Standard (40 CFR Part 170) in general, agricultural plant uses are covered must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves made out of: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils.
- Chemical-resistant footwear plus socks
- Protective eyewear (goggles, face shield, or safety glasses)

**Mixers and loaders** must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves made out of: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils.
- Chemical-resistant footwear plus socks
- Chemical-resistant apron
- Protective eyewear (goggles, face shield, or safety glasses)

**Non-WPS Uses:**

**Applicators and other handlers, mixers and loaders** who handle this product for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) – In general, agricultural plant uses are covered - must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves made out of: barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils.
- Protective eyewear (goggles, face shield, or safety glasses)

**USER SAFETY REQUIREMENTS**

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment, PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS****Users should:**

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

**ENGINEERING CONTROLS**

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. [For use on Sub-Label A only]

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish and highly toxic to other aquatic organisms including oysters and shrimp. Use with care when applying to turf areas adjacent to any body of water. Drift and runoff from treated turf may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment wash water or rinsate.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use with or store the product near an oxidizing agent. **COMBUSTIBLE.** Do not use or store near heat or open flame.

### **DIRECTIONS FOR USE**

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

REFORMULATION OR REPACKAGING OF THIS PRODUCT IS PROHIBITED.

Do not apply Quali-Pro® Dithiopyr L 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 responsible for pesticide regulation.

#### **AGRICULTURAL USE REQUIREMENTS**

Use this product 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 intervals. 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 for all crops.

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:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear (goggles, face shield, or safety glasses)

#### **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 (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. The area treated must be vacated by unprotected persons.

Do not enter or allow others to enter until sprays have dried.

Do not treat areas while unprotected humans or domestic animals are present in the treatment area. Because certain States may require more restrictive reentry intervals, consult your State Department of Agriculture for further information.

## USE INFORMATION

Quali-Pro® Dithiopyr L is a pyridine-based herbicide that provides pre-emergence and early post-emergence control of crabgrass, and pre-emergence control of other annual grasses and broadleaf weeds in established lawns, commercial sod farms, non-cropland, industrial sites, ornamental turf (including golf course fairways, roughs, tee boxes), container-grown ornamentals, field-grown ornamentals, and landscape ornamentals.

### Note:

- This product will not control emerged broadleaf weeds or grasses (except for crabgrass prior to tillering stage of growth).
- Quali-Pro® Dithiopyr L will control emerged crabgrass up to the initiation of tillering (when crabgrass seedlings become visible in established turf grass, no more than 5 leaves per plant). Suitable control will not be attained when applications are made after initiation of tillering.
- All other applications of this product should be made pre-emergence (prior to germination of target weeds). Quali-Pro® Dithiopyr L will not control established weeds.
- All applications must be followed by ½ inch or more of irrigation or rainfall for activation of Quali-Pro® Dithiopyr L.
- Time applications to allow for activation before the tillering stage of crabgrass or germination of all other weeds.
- In **New York State**, this product may only be used by commercial applicants at no more than 2 pints (0.5 Lb active ingredient) per acre per year except in Nassau and Suffolk counties of New York. In Nassau and Suffolk counties, do not exceed 1 pint (0.25 Lb active ingredient) per acre per year.

**Chemigation: DO NOT** apply this product through any type of irrigation system.

### MIXING INSTRUCTIONS

#### Quali-Pro® Dithiopyr L with Water:

- Fill a clean spray tank 3/4 full of the desired amount of water.
- Add the specified amount of Quali-Pro® Dithiopyr L to the tank.
- Fill the tank with the remaining amount of water specified under continuous agitation.
- To avoid siphoning back, remove the hose from the mixing tank immediately after filling into the water source.

#### Quali-Pro® Dithiopyr L with Fluid Fertilizers:

Apply Quali-Pro® Dithiopyr L in tank mix combination with fluid fertilizers or other herbicides at the labeled rates. Only use if (1) the tank mix product is labeled for the use site to be treated and for the timing and method of application; and (2) there is no prohibition for tank mixing on the label of the tank mix product. Follow all relevant use directions, precautions, and limitations on all labels.

Always check for the compatibility of Quali-Pro® Dithiopyr L with the fluid fertilizer. Perform a Compatibility Test by mixing small amounts before application. See the Physical Compatibility Test section of this label. Follow the mixing procedures listed below for tank mixtures.

### **Tank Mix Combinations**

- To control listed broadleaf weeds in ornamental areas, tank mix with Gallery® 75 DF or Quali-Pro® Isoxaben 75WG and apply pre-emergence.
- To control undesirable vegetation in ornamental areas, use tank mix combinations with glyphosate and other labeled herbicides. Used together, the tank mix will provide post-emergence control of susceptible weed species listed on the label for glyphosate and residual pre-emergence control of vulnerable weed species listed on the label for Quali-Pro® Dithiopyr L. Before use, read the label for glyphosate for use directions, precautions, and limitations before use.
- It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **Use Precautions:**

- Do not apply sprays containing glyphosate over the top of ornamental plants.
- Do not allow glyphosate to come in contact with foliage and stems of turf grasses, trees, shrubs, or other desirable vegetation since severe damage or death may result.
- In areas adjacent to desirable plants, use a shield to prevent spray from contacting foliage and stems of desirable plants.
- The use of a nonionic surfactant may improve control. Read and follow the surfactant manufacturer's label recommendations.
- Conduct a compatibility test (jar test) using comparative proportions of the tank mix ingredients prior to mixing ingredients in the spray tank. See the Compatibility Test Mixing Instructions section of this label.

### **Mixing Order for Tank Mixes:**

- Cover filling port with a 20 to 35 mesh screen or wetting basket.
- Fill the spray tank 1/2 full with the desired carrier. Start agitation.
- Add gradually to the mix tank the different formulation types following the order listed below. Make sure that there is sufficient time for complete dispersion and mixing after each product is added.
  1. Compatibility agent (if needed)
  2. Wettable powder or water dispersible granules (if used)
  3. Suspension concentrates
  4. Quali-Pro® Dithiopyr L and liquid (emulsifiable concentrate or liquid concentrate) pesticide (if used)
  5. Water solutions

**Note:**

- Add water soluble liquid pesticide formulations (if used), followed by surfactants, marker dyes or foams, or drift control additives at the final filling of the tank.
- To avoid siphoning back, remove the hose from the mixing tank immediately after filling into the water source.
- Maintain continuous agitation during mixing, final filling and throughout application.
- If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be re-suspended before spraying is resumed.

**Premixing:**

- For Dry and flowable formulations - premix with water (slurried) and add to the spray tank using a 20 to 35 mesh screen.
- For Liquid (emulsifiable concentrate, liquid concentrate, flowable) - premix with one-part water prior to adding to the spray tank.

**Physical Compatibility Test:** Test compatibility by mixing all the components in a small jar in proportionate quantities prior to mixing this product with fluid fertilizers and/or other pesticides.

**Compatibility Test Mixing Instructions (for 25 gal. spray solution per acre)**

- Determine the amount of pesticide to tank mix by referring to the pesticide label(s).
- Calculate the amount of pesticide to add to the jar based on use rate ratios in table. (For example: a use rate of 1 lb per acre of dry pesticide, add 1 1/2 teaspoons to the jar; a use rate of 1 quart per acre of liquid pesticide, add 1 teaspoon to the jar (Quali-Pro® Dithiopyr L should be added based on use rate ratios for liquid pesticides).
- For changes in spray volume or herbicide rate, make appropriate changes in the ingredients for the test.
- Shake well after mixing.

Pesticide Formulation	If Rate per Acre is:	Amount of Pesticide added to Spray Carrier (assuming volume is 25 GPA):
		Level Teaspoons per Pint Jar of Carrier Solution
Dry	1 lb	1 1/2
Liquid	1 qt	1

**Note:**

- If crystals, flakes, sludge, gels, oily films or layers do not form, then the tested components are compatible.
- Incompatibility will usually occur within 5 minutes after mixing. Use a compatibility agent if the components are incompatible. Repeat the compatibility test with a suitable compatibility agent (1/2 teaspoon per pint jar is equivalent to 2 pints per 100 gallons of spray solution).
- Do not use mixtures that form crystals, flakes, sludge, gels, oil films or layers or other incompatible signs.

## GRASS AND BROADLEAF WEEDS CONTROLLED

When applied as a pre-emergence, Quali-Pro® Dithiopyr L controls annual grass and broadleaf weeds listed in the table below. Quali-Pro® Dithiopyr L will not control emerged broadleaf weeds or grasses (except for crabgrass prior to tillering stage of growth).

**Note:** The area to be treated must be free of weeds before application.

COMMON NAME	SCIENTIFIC NAME
<b>Grasses</b>	
barley	<i>Hordeum</i> spp.
barnyardgrass	<i>Echinochloa crus-galli</i>
bluegrass, annual	<i>Poa annua</i>
brome	<i>Bromus</i> spp.
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>
crabgrass, southern	<i>Digitaria ciliaris</i>
crowfootgrass	<i>Dactyloctenium aegyptium</i>
dallisgrass (seedling)	<i>Paspalum dilatatum</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green	<i>Setaria verdi</i>
foxtail, yellow	<i>Pennisetum glaucum</i>
goosegrass	<i>Eleusine indica</i>
kikuyugrass	<i>Pennisetum clandestinum</i>
Mary's grass	<i>Microstegium vimineum</i> (Trin.) A.Camus var. <i>imberbe</i>
oats, wild	<i>Avena fatua</i>
ryegrass (annual & perennial)	<i>Lolium</i> spp.
sandbur	<i>Cenchrus</i> spp.
smutgrass	<i>Sporobolus indicus</i>



<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
<b>Broadleaf Weeds</b>	
bittercress	<i>Cardamine</i> spp.
carpetweed	<i>Mollugo verticillata</i>
chickweed	<i>Stellaria</i> spp.
dandelion	<i>Taraxacum officinale</i>
geranium, Carolina	<i>Geranium carolinianum</i>
henbit	<i>Lamium</i> spp.
knotweed, prostrate	<i>Polygonum aviculare</i>
lespedeza, common	<i>Lespedeza striata</i>
marestail	<i>Conyza canadensis</i>
medic, black	<i>Medicago lupulina</i>
mulberry weed	<i>Fatoua villosa</i>
mustard	<i>Brassica</i> spp.
oxalis, buttercup	<i>Oxalis pes-caprae</i>
parsley-piert	<i>Alchemilla arvensis</i>
pigweed, redroot	<i>Amaranthus retroflexus</i>
pineappleweed	<i>Matricaria matricarioides</i>
purslane, common	<i>Portulaca oleracea</i>
rocket, London	<i>Sisymbrium irio</i>
shepherdspurse	<i>Capsella bursa-pastoris</i>
sowthistle	<i>Sonchus oleraceus</i>
speedwell, corn	<i>Veronica arvensis</i>
spurge, garden	<i>Euphorbia hirta</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
spurge, spotted	<i>Euphorbia maculata</i>
willowherb	<i>Epilobium</i> spp.
woodsorrel, creeping	<i>Oxalis corniculata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

## USE SITES

### TURFGRASS

Quali-Pro® Dithiopyr L can be used on seeded, sodded, or sprigged lawns and ornamental turfgrass that are well established.

#### Use Precautions:

- Before making the first application of Quali-Pro® Dithiopyr L newly established turf must have developed a good root system and a uniform stand, and have received at least two mowings following seeding, sodding, or sprigging. If this product is applied on turf that is not well-established, or has been weakened by weather, pest, disease, chemical, mechanical or other related stress, turf injury may occur.
- For best results, allow 6 months for sod to be established before applying Quali-Pro® Dithiopyr L.
- Quali-Pro® Dithiopyr L will prevent the germination of annual bluegrass but will not affect established annual bluegrass. If maintenance of annual bluegrass is desired, using this product during the time of annual bluegrass germination is not recommended. In the states of AZ, CA, NV, OR, WA, NM, ID, MT and UT, Quali-Pro® Dithiopyr L may contribute to the thinning or stand reduction in established stands of annual bluegrass.
- Early post emergence applications of this product will control crabgrass only if applied prior to the fifth leaf (first tiller) stage of growth.
- For best results, cultural practices that disturb the soil, such as verticutting and core-, spike-, or hydro-aerification, should be done before applying this product.

#### Use Restrictions:

- Do not apply this product to golf course putting greens.
- Do not apply this product within 3 months of harvesting sod.
- Do not apply this product until the turfgrass has recovered from cultural practices such as verticutting or core-, spike-, or hydro-aerification.
- Do not use clippings from treated turf for mulching around vegetables or fruit trees.
- Do not apply more than 0.73 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (2 pints per acre) per application.
- Do not apply more than 2.2 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (6 pints per acre) per year using split or sequential applications.
- In New York State, this product may only be used by commercial applicants at no more than 2 pints (0.5 Lb active ingredient) per acre per year except in Nassau and Suffolk counties of New York.
- In Nassau and Suffolk counties of New York, do not exceed 1 pint per (0.25 Lb active ingredient) per acre per year.

### **Tolerant Turfgrass Species**

When applied as directed under the conditions described, the following established turfgrasses are tolerant to Quali-Pro® Dithiopyr L:

#### **Established Cool Season Turfgrasses**

<b><u>Common Name</u></b>	<b><u>Scientific Name</u></b>
bentgrass, creeping <sup>1</sup>	<i>Agrostis palustris</i>
bluegrass, Kentucky	<i>Poa pratensis</i>
fescue, fine <sup>2</sup>	<i>Festuca rubra</i>
fescue, tall	<i>Lolium arundinaceum</i>
ryegrass, perennial	<i>Lolium perenne</i>

#### **Established Warm Season Turfgrasses**

<b><u>Common Name</u></b>	<b><u>Scientific Name</u></b>
bahiagrass	<i>Paspalum notatum</i>
Bermudagrass <sup>3</sup>	<i>Cynodon dactylon</i>
Buffalograss <sup>4</sup>	<i>Buchloe dactyloides</i>
carpetgrass	<i>Axonopus affinis</i>
centipedegrass	<i>Eremochloa ophiuroides</i>
kikuyugrass	<i>Pennisetum clandestinum</i>
seashore paspalum	<i>Paspalum vaginatum</i>
St. Augustinegrass	<i>Stenotaphrum secundatum</i>
zoysiagrass	<i>Zoysia japonica</i>

<sup>1</sup> Do not use this product on certain varieties of creeping bentgrass, such as cohansey, carmen, seaside, and Washington as undesirable turfgrass injury may result. Not all varieties of creeping bentgrass have been tested. Do not apply this product to colonial bentgrass (*Agrostis tenuis*) varieties.

<sup>2</sup> Do not use this product on certain varieties of fine fescue as undesirable turf injury may result. The following fine fescue varieties have been found to be sensitive to this product: Atlanta, banner, beauty, bilgart, CF-2, enjoy, HF-93, highlight, ivalo, Jamestown, koket, majenta, Mary, pennlawn, Tamara, Tatjana, waldorf, and waldina. Not all varieties of fine fescue have been tested.

<sup>3</sup> Do not use this product on Tifgreen (328) hybrid Bermudagrass as undesirable turfgrass injury may result. Other common and hybrid Bermudagrass varieties are tolerant.

<sup>4</sup> Do not use this product on seedling buffalograss in the spring of the first year of establishment until the turfgrass is fully green and has established new roots.

### **Reseeding, Overseeding, or Sprigging**

Follow proper cultural practices such as soil cultivation, irrigation and fertilization when reseeding or overseeding. Use mechanical or power seeding equipment (slit seeders) designed to give good seed to soil contact.

#### **Use Precautions:**

- Reseeding, overseeding, or sprigging of treated areas within 3 months after a single application of this product, or within 4 months after a split application program [totaling more than 0.73 oz per 1,000 sq ft (2 pints per acre)], may inhibit the establishment of desirable turfgrasses.
- If slight injury to perennial ryegrass can be tolerated, overseeding of Bermudagrass with perennial ryegrass 8 weeks after an application or as early as 6 weeks after application is an exception.

#### **Application Instructions**

To provide a uniform spray distribution, use conventional liquid application equipment, including hand held spray gun, in sufficient carrier volume. Calibrate application equipment before use. Cluster nozzles or other boomless spray equipment may not give suitable results because of inconsistent application volume and spray pattern. During application, avoid streaking, skips, or excess overlapping. For more accurate application, use marker dyes or foams.

### **CRABGRASS CONTROL**

#### **Pre-emergence Control**

In established lawns and ornamental turf, Quali-Pro® Dithiopyr L provides pre-emergence control of crabgrass (including the large, smooth, and southern species) when applied prior to crabgrass emergence.

#### **Early Post-emergence Control**

Quali-Pro® DITHIOPYR 2L provides early post-emergence control of crabgrass during early crabgrass seedling growth following emergence. Since it is very difficult to monitor crabgrass seedlings at early stages of growth in well-established turfgrass, early post-emergence control is only attained when this product is applied prior to the tillering of crabgrass (less than 5 leaves per plant). This is usually the time when crabgrass seedlings are easily observed in lawn or turf.

The time from crabgrass emergence until tillering will vary from 2 to 8 weeks as a result of climatic conditions and rate of growth. The use of a nonionic surfactant at 0.5% by volume (2 qt per 100 gallons of spray) may improve early post-emergence control. Follow all label requirements on the respective label of the manufacturer's surfactant.

#### **Early Post-emergence Control – Tank Mixtures**

When used alone, Quali-Pro® Dithiopyr L provides early post-emergence control of crabgrass when treated prior to reaching the tillering stage of growth. Control of crabgrass with up to 3 tillers may be attained if applied in combination with either MSMA herbicide or Acclaim herbicide,

Program 1 or Program 2 use rates of Quali-Pro® Dithiopyr L must be followed if pre-emergence herbicides have been applied prior to a post-emergence application in your area. If no pre-emergence herbicides have been applied, the Program 3 use rate in combination with MSMA or Acclaim must be followed.

Before tank mixing this product with fluid fertilizers and/or either MSMA or Acclaim, a compatibility test (see Compatibility Test in Mixing Directions section) is suggested. Review the information on tolerance of specific turfgrass species on the MSMA or Acclaim labels. Follow all limitations, precautionary statements, and use restrictions on the relevant labels when using for tank mixtures.

### **Timing of Applications**

For crabgrass control in the spring, summer, or fall, apply this product as a single application, a split application, or a sequential application.

**Early Summer or Spring Application:** Apply Quali-Pro® Dithiopyr L at the listed rate as noted in one of the three application plans in the table below. Rates used are dependent on 1) the user's location, 2) the mowing height of the turfgrass, and 3) whether, at the time of application, the use is considered to be pre-emergence or early post-emergence. The total rate applied will affect the length of residual weed control provided by this product. Weather, weed pressure, turfgrass competitiveness, and the user's location within a region are also variables in length of control.

**Late Summer or Fall Application:** Apply Quali-Pro® Dithiopyr L in the late summer or early fall (late August through November) at the Plan C use rates listed in the table below. Season-long weed control can be attained by a fall application followed by an appropriately timed spring application. Do not exceed the maximum use rate per year. For Poa annua control see Section titled "Poa annua (Annual Bluegrass) Control" below Use Rate table.

#### **Plan A:**

- For preemergence control in turfgrass that is cut relatively high (e.g., residential lawns).
- Provides 3 to 5 months of preemergence crabgrass control and early postemergence control of crabgrass up to the 3-leaf stage at sites where turfgrass is cut relatively high.
- Make split applications with the rates in the Use Rates table being split across two applications made 5 to 10 weeks apart. Split applications may provide improved weed control.

#### **Plan B:**

- For preemergence control in turf: (a) when turfgrass is cut relatively low (e.g., golf fairways); and (b) when turfgrass maintenance or weed control has been conducted during the previous year.
- Provides 4 to 6 months of preemergence crabgrass control and for early postemergence control up to crabgrass tillering at sites where turfgrass is cut relatively high.
- Make split applications with the rates in the Use Rates table being split across two applications made 5 to 10 weeks apart. Split applications may provide improved weed control.

**Plan C:**

- For preemergence control in turf: (a) when turfgrass is cut relatively low (e.g., golf fairways); and (b) when turf maintenance or weed control was not conducted during the previous year.
- Provides 4 to 6 months of preemergence crabgrass control and for early postemergence control up to crabgrass tillering at sites where turfgrass is cut relatively low (e.g., golf fairways).
- For longer periods of control, make subsequent sequential pre and/or postemergence applications.
- Make split applications with the rates in the Use Rates table being split across two applications made 5 to 10 weeks apart. Split applications may provide improved weed control.

**Use Rate Table****Note:** 1 oz equals 6 teaspoons

Region	Application Rates	Plan A	Plan B	Plan C
<b>All states, except NY<sup>1</sup> and parts of states not listed in transition, south, coastal south or west</b>	pt/acre	0.75	1.0	1.5
	oz/1,000 sq ft	0.28	0.37	0.55
	lb ai/acre	0.188	0.25	0.38
<b>Transition:</b> DE, KS, KY, MD, MO, NJ, VA, southeastern PA, southern areas of IL, IN, OH, coastal areas of CT & RI	pt/acre	1.0	1.5	2 <sup>1</sup>
	oz/1,000 sq ft	0.37	0.55	0.73 <sup>1</sup>
	lb ai/acre	0.25	0.38	0.5 <sup>1</sup>
<b>South:</b> AL, AR, GA, LA, MS, NC, NM, OK, SC, TN, TX	pt/acre	1.5	1.0 + 1.0	1.2 + 1.2
	oz/1,000 sq ft	0.55	0.37 + 0.37	0.46 + 0.46
	lb ai/acre	0.38	0.25 + 0.25 <sup>1</sup>	0.31 + 0.31 <sup>1</sup>
<b>Coastal South:</b> HI, FL, southern coastal areas of AL, GA, LA, MS, NC, SC, TX	pt/acre	1.0 + 1.0	1.25 + 1.25	1.5 + 1.5
	oz/1,000 sq ft	0.37 + 0.37	0.46 + 0.46	0.55 + 0.55
	lb ai/acre	0.25 + 0.25 <sup>1</sup>	0.31 + 0.31 <sup>1</sup>	0.38 + 0.38
<b>West:</b> AZ, CA, NV. In this climatically diverse region, use the higher rates in local areas with longer crabgrass seasons.	pt/acre	0.75 + 1.0	1.0 + 1.5	1.0 + 1.0
	oz/1,000 sq ft	0.28 + 0.37	0.37 + 0.55	0.37 + 0.37
	lb ai/acre	0.18 + 0.25	0.25 + 0.38	0.25 + 0.25

<sup>1</sup> In **New York State**, this product may only be used by commercial applicants at no more than 2 pints (0.5 Lb active ingredient) per acre per year except in Nassau and Suffolk counties of New York. In Nassau and Suffolk counties of New York, do not exceed 1 pint (0.25 Lb of active ingredient) per acre per year.

**Use Restriction:****Maximum Use Rates (All Turf Uses)**

- Do not apply more than 0.73 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (2 pints per acre) per application.
- Do not apply more than 2.2 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (6 pints per acre) per year using split or sequential applications.

**Poa Annua (annual bluegrass) Control**

- For pre-emergence control of *Poa annua* (annual bluegrass), apply this product at a rate of 0.38 to 0.5 lb active ingredient per acre. This is equivalent to 1.5 to 2 pints per acre.
- Apply 6 to 8 weeks before overseeding Bermudagrass with perennial ryegrass (specific to perennial ryegrass; not recommended for *Poa trivialis* or bentgrass).
- Minimum seeding rate of 400 lbs per acre for perennial ryegrass.
- Use only on fairways and roughs.
- Perennial varieties of *Poa annua* (var. *repens*) may not be controlled as well as the true annual.
- After overseeding, do not apply earlier than 16 weeks unless injury to the ryegrass can be tolerated.
- For early season crabgrass treatment and suppression of some winter annual broadleaf weeds, a follow-up treatment 16 weeks after overseeding may be made.

**Noncropland and Industrial Sites**

For pre-emergence control of listed annual grasses and broadleaf weeds in terrestrial non-crop areas including farm yards, fence rows, highway, utility and railroad rights-of-way, airports, recreation areas, campgrounds, and industrial sites (lumber yards, tank farms, and storage areas).

- As a pre-emergence application, Quali-Pro® Dithiopyr L controls weeds as they germinate.
- This product will not control established weeds. Make application prior to germination of listed weeds or to bare ground.
- For best results apply to soil that is free of clods, weeds and debris such as leaves.
- Eliminate existing vegetation by cultivation, hand weeding, or use of a post-emergence herbicide before application.
- All applications must be followed by ½ inch or more of irrigation or rainfall for activation of Quali-Pro® Dithiopyr L.

Avoid excessive soil disruption that may break down the herbicide barrier (minimal surface disruption such as raking should not break down the herbicide barrier).

**Use Precautions:**

- For ornamentals within non-crop areas, apply only after transplanting when soil around roots has been thoroughly settled by rainfall or irrigation and no cracks are present or injury will result.
- Make sequential applications at 3 to 4 month intervals for extended pre-emergence weed control.
- Do not exceed annual maximum use rate.

**Use Restrictions:**

- Do not apply when weather conditions favor drift to non-target areas. This product may injure foliage of non-target plants.
- Do not graze livestock or feed forage cut from areas treated with this product.
- Do not exceed maximum use rates per year.
- Do not use more than 0.73 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (2 pt per acre) per application, or more than 2.2 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (6 pt per acre) per year for split or sequential applications.
- In **New York State**, this product may only be used by commercial applicants at no more than 2 pints (0.5 Lb active ingredient) per acre per year except in Nassau and Suffolk counties of New York.
- In Nassau and Suffolk counties of New York, do not exceed 1 pint (0.25 Lb of active ingredient) per acre per year.

**Quali-Pro® Dithiopyr L – Table of Equivalent Rates**

(pt/acre)	(oz/1,000 sq ft)	(oz/100 sq ft)	(ml/100 sq ft)
2	0.73	0.073	2.2

**ORNAMENTALS (LANDSCAPE, FIELD GROWN, AND CONTAINER GROWN)**

Quali-Pro® Dithiopyr L will provide pre-emergence control of listed annual grasses and broadleaf weeds listed on this label in areas planted with tolerant ornamental plants (listed ornamental plants have shown tolerance to over-the-top applications of Quali-Pro® Dithiopyr L). Application is intended for use on plants grown for aesthetic purposes in landscaped areas or in container or field grown production nurseries.

**Use Precautions:**

- Apply Quali-Pro® Dithiopyr L to established ornamentals only.
- Do not apply this product to bare roots of ornamental plants as injury may result.
- Do not incorporate this product into the soil. Dilution of active ingredient and possible injury to plant roots may occur.
- Do not apply around ornamental plants that have been weakened or are under stress (due to drought, flooding, excessive fertilizer or soil salts, wind injury, hail, frost damage, winter injury, injury from previously applied pesticides or injury due to insects, heat stress, nematodes or diseases).



**Use Restrictions:**

- Do not apply when weather conditions favor drift to non-target areas. This product may injure foliage of non-target plants unless they are listed on this label.
- Do not apply this product to grasses grown for seed.
- Do not graze livestock or feed forage cut from areas treated with this product.
- Do not apply this product to plants that are grown for food (e.g., fruit trees or maple trees tapped for syrup).
- Do not apply this product in enclosed structures and greenhouses.
- Do not apply more than 0.73 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (2 pt per acre) per application and no more than 2.2 oz of Quali-Pro® Dithiopyr L per 1,000 sq ft (6 pt per acre) per year using split or sequential applications.
- In **New York State**, this product may only be used by commercial applicants at no more than 2 pints (0.5 Lb active ingredient) per acre per year except in Nassau and Suffolk counties of New York.
- In Nassau and Suffolk counties of New York, do not exceed 1 pint (0.25 Lb of active ingredient) per acre per year.

**Shadehouse Structures:** Apply in open shadehouse-type structures where the natural flow of air is unimpeded. **Note:** Do not apply within three weeks prior to enclosing greenhouses or poly-type structures.

**Ornamental Species Not Listed on this Label:** Tolerance to this product on all ornamental plant species or varieties or under all possible growing conditions is impossible to evaluate. Users who wish to use this product on ornamental species not recommended on this label should determine the suitability for use by treating a small number of ornamental plants at a recommended rate prior to treating larger areas. The treated plants should be observed for any symptoms of herbicidal injury, such as foliar damage, reduced vigor or stand reduction, during 30 to 60 days of normal growing conditions to determine if the treatment is non-injurious.

**Application Instructions**

Quali-Pro® Dithiopyr L may be applied as a directed spray in established ornamentals or as a broadcast over-the-top spray to listed established ornamentals (see ornamental plant listing). Make directed sprays to the soil at the base of the ornamentals.

- As a pre-emergence application, Quali-Pro® Dithiopyr L controls weeds as they germinate.
- This product will not control emerged broadleaf or grass weeds except crabgrass up to the tillering stage of growth.
- Make application prior to germination of listed weeds or to bare ground.
- For best results apply to soil that is free of clods, weeds and debris such as leaves.
- Eliminate existing vegetation by cultivation, hand weeding, or use of a post-emergence herbicide before application.
- All applications must be followed by ½ inch or more of irrigation or rainfall for activation of Quali-Pro® Dithiopyr L.
- Avoid excessive soil disruption that may break down the herbicide barrier (minimal surface disruption such as raking should not break down the herbicide barrier).
- Take care after transplanting that soil or planting mixes have settled firmly through irrigation, rainfall or packing and that there are no cracks that would allow direct contact of this product to the plant roots or plant injury may occur.

**To reduce injury**

- Apply with calibrated equipment using a minimum of 2 gallons of water per 1,000 sq. ft.
- Immediately after application apply overhead irrigation to activate the herbicide and wash the product from plant surface onto soil surface.
- In the spring over the top application of Quali-Pro® Dithiopyr L may temporarily injure new growth of desirable plants. It is advisable to wait to apply Quali-Pro® Dithiopyr L over the top of newly emerged vegetation until it has hardened off unless you have experience that the ornamental plant will not be injured by the over the top application.
- Do not apply to plants that are under stress such as heat, drought or frost damage.

**Application Rates**

- Make application prior to germination of target weed species.
- Mix Quali-Pro® Dithiopyr L with clean water at 0.5 to 0.73 oz of product per 1,000 sq ft per application and applied at 20 to 40 psi in a minimum of 1 gallon of water per 1,000 sq ft.
- Make sequential applications at 3 to 4 month intervals for extended pre-emergence weed control.
- When treating a small area, apply Quali-Pro® Dithiopyr L with a calibrated sprayer that assures accurate, uniform spray distribution.
- Do not exceed maximum use rates per year.

**Quali-Pro® Dithiopyr L – Table of Equivalent Rates**

(pt/acre)	(oz/1,000 sq ft)	(oz/100 sq ft)	(ml/100 sq ft)
2	0.73	0.073	2.2

### Tolerant Ornamentals

When Quali-Pro® Dithiopyr L is applied as directed under the conditions described on this label, ornamentals listed below have shown tolerance in field trials.

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
abella ( <i>Abelia x grandiflora</i> )	nana grand surprise	X	X X	X	X X
acacia, redolens ( <i>Acacia redolens</i> )		X	X	X	X
abyssinian red banana ( <i>Ensete ventricosum</i> )	maureli	X	X	X	X
Ajuga carpet bugle ( <i>Ajuga reptans</i> ) ( <i>Ajuga genevensis</i> )	bronze bronze beauty		X X		X X
almond, flowering ( <i>Prunus glandulosa</i> )			X		X
apple† ( <i>Malus pumila</i> )			X		X
aralia, Japanese ( <i>Fatsia japonica</i> )			X	X	X
arborvitae ( <i>Thuja occidentalis</i> )	nigra pyramidalis smaragh techny woodwardii		X X X X X		X X X X X
arborvitae, dwarf golden ( <i>Thuja orientalis</i> )	aurea nana	X	X	X	X



		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
azalea, flame ( <i>Rhododendron calendulaceum</i> )			X		X
azalea, kirishima ( <i>Rhododendron obtusum</i> )			X		X
bamboo, heavenly ( <i>Nandina domestica</i> )	compacta nana plum passion	X	X X X	X	X X X
barberry, Japanese ( <i>Berberis thunbergii</i> )	aurea crimson pygmy dwarf pygmy green kobold pygmy red rose glow		X X X X X X X	X	X X X X X X X
barberry, purple ( <i>Berberis thunbergii</i> var <i>atropurpurea</i> )	atropurpurea		X		X
basket flower ( <i>Gaillardia grandiflora</i> )			X		X
beach grass ( <i>Ammophila breviligulata</i> )			X		X
bearberry (common) ( <i>Arctostaphylos uva-ursi</i> )	Massachusetts		X		X
bee balm ( <i>Monarda didyma</i> )			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
begonia ( <i>Begonia</i> spp.)			X		X
birch, river ( <i>Betula nigra</i> )			X		X
birch, European white ( <i>Betula pendula</i> )			X	X	X
blackeyed Susan ( <i>Rudbeckia hirta</i> )	goldstrum		X		X
blanket flower ( <i>Gaillardia</i> spp.)			X		X
blood grass ( <i>Imperata cylindrica</i> )	rubra	X	X	X	X
blue fescue ( <i>Festuca ovina</i> )			X		X
bluebeard ( <i>Caryopteris</i> x <i>clandonensis</i> )	dark knight	X	X	X	X
blueberry† ( <i>Vaccinium</i> spp.)	bluecrop blue jay Jersey north blue northland		X X X X X		X X X X X
bottlebrush ( <i>Callistemon citrinus</i> )	Little John	X	X	X	X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
bougainvillea ( <i>Bougainvillea</i> sp.)	James Walker pink dream purple queen rosenka Scarlet O' Hara		X X X X X		X X X X X
bower vine ( <i>Pandorea jasminoides</i> )	rosea	X	X	X	X
boxwood ( <i>Buxus microphylla</i> )	japonica		X		X
boxwood, green beauty ( <i>Buxus microphylla japonica</i> )	green beauty	X	X	X	X
boxwood, welleri ( <i>Buxus sempervirens</i> )	winter gem	X	X	X	X
broom ( <i>Cytisus scoparius</i> ) ( <i>Genista pilosa</i> )	moonlight Vancouver gold		X X		X X
camellia ( <i>Camellia japonica</i> )  ( <i>Camellia sasanqua</i> )	debutante mathotiana supreme chansonette setsukgekka		X X X X		X X X X
candytuft ( <i>Iberis sempervirens</i> )	snow white		X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
carex, variegated ( <i>Carex</i> spp.)			X		X
carpet bugle ( <i>Ajuga reptans</i> ) ( <i>Ajuga genevensis</i> )	bronze bronze beauty		X X		X X
cedar, red ( <i>Juniperus virginiana</i> )			X		X
celosia ( <i>Celosia</i> spp.)			X		X
centaura ( <i>Centaurea montana</i> )			X		X
Chinese pistache ( <i>Pistacia chinensis</i> )			X	X	X
chrysanthemum ( <i>Chrysanthemum</i> spp.)	mandarin time	X	X	X	X
clivia ( <i>Civia miniata</i> )		X	X	X	X
cockscomb, plumosa ( <i>Celosia cristata</i> )	scarl.et plumosa		X		X
coleus ( <i>Coleus blumei</i> )	red kewpie		X		X
columbine ( <i>Aquilegia</i> spp.)			X		X



		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
coneflower, purple ( <i>Echinacea purpurea</i> )	magnus purple	X	X X	X	X X
copper leaf ( <i>Acalypha wilkesiana</i> )			X		X
coreopsis ( <i>Coreopsis</i> spp.)	moonbeam		X		X
corn flower ( <i>Centaurea</i> spp.)			X		X
cotoneaster ( <i>Cotoneaster apiculatus</i> )			X		X
coyotebrush ( <i>Baccharis pilularis</i> )			X		X
cycad ( <i>Cycas revoluta</i> )			X		X
cypress, bald ( <i>Taxodium distichum</i> )			X		X
cypress, Italian ( <i>Cupressus sempervirens</i> )	glauca tiny tower	X	X X	X	X X
cypress, hinoki false ( <i>Chamaecyparis obtusa</i> )	gracilis torulosa	X	X X	X	X X
cypress, leyland ( <i>Cupressocyparis leylandii</i> ) hybrid		X	X	X	X
daffodil ( <i>Narcissus</i> spp.)	King Alfred		X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
daylily ( <i>Hemerocallis</i> spp.)	Aztec gold bright yellow (hybrid) single gold (evergreen) Wilson's yellow		X X X X		X X X X.
dianthus (sweet William) ( <i>Dianthus</i> spp.) ( <i>Dianthus gratianopolitanus</i> )	firewatch	X	X	X	X
delphinium ( <i>Delphinium</i> spp.)	magic fountain		X		X
dogwood ( <i>Cornus florida</i> )			X		X
dogwood, American ( <i>Cornus sericea</i> )	flavarimea		X		X
Douglas fir ( <i>Pseudotsuga menziesii</i> )			X		X
dracaena ( <i>Cordyline Indivisa</i> ) ( <i>Cordyline australis</i> )		X X	X X	X X	X X
dusty miller ( <i>Senecio cineraria</i> )		X	X	X	X
elm ( <i>Ulmus parvifolia</i> )	drake		X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
eulaliagrass/maiden grass ( <i>Miscanthus sinensis</i> )	gracillimus variegatus morning light	X X X	X X X	X X X	X X X
euonymus ( <i>Euonymus fortunei</i> )	Argenteo-variegata colorata emerald gaiety emerald n' gold gold edge golden princess tricolor vegetus		X X X X X X X X		X X X X X X X X
( <i>Euonymus japonicus</i> )	Aureomarginata microphylla variegata "Monee" silver princess silver king		X X X X	X X X	X X X X
( <i>Euonymus kiatschovicus</i> )	Manhattan	X	X	X	X
euryps, green leaved ( <i>Euryops pectinatus</i> )	viridis	X	X	X	X
fan palm, European ( <i>Chamaerops humilis</i> )			X		X
fan palm, Mexican ( <i>Washingtonia robusta</i> )			X		X
fern (various) ( <i>Asparagus</i> spp.)			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
fescue ( <i>Festuca glauca</i> )			X		X
fescue, blue ( <i>Festuca cinerea</i> )	Elijah blue		X	X	X
fetterbush ( <i>Leucothoe fontanesiana</i> )	rainbow		X		X
figus ( <i>Ficus retusa</i> )	nitidia		X		X
fir fraser ( <i>Abies fraseri</i> )			X		X
fortnight lily ( <i>Moraea bicolor</i> )		X	X	X	X
Forsythia ( <i>Forsythia</i> x Arnold Dwarf) ( <i>Forsythia viridissima</i> ) ( <i>Forsythia xintermedia</i> ) ( <i>Forsythia</i> x Meadowlark) ( <i>Forsythia x intermedia</i> ) ( <i>Forsythia suspensa</i> )	arnold dwarf bronxensis dwarf lynwood gold meadowlark spring glory weeping		X X X X X X		X X X X X X
fountain grass, purple ( <i>Pennisetum setaceum</i> )	rubrum	X	X	X	X
fuchsia ( <i>Fuchsia</i> spp.)			X		X
galium ( <i>Galium odoratum</i> )			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
gardenia ( <i>Gardenia jasminoides</i> )	mystery		X		X
	radicans	X	X	X	X
	veitchii	X	X	X	X
( <i>Gardenia thunbergia</i> )	white gem	X	X	X	X
Garlic, variegated society ( <i>Thulbaghia violacea</i> )	variegata	X	X	X	X
gayfeather ( <i>Liatris spicata</i> )	floristan violet	X	X	X	X
geranium ( <i>Pelargonium x hortorum</i> )			X		X
globe thistle ( <i>Echinops ritro</i> )		X	X	X	X
gum ( <i>Eucalyptus citriodora</i> )			X		X
hawthorn ( <i>Crataegus</i> spp.)	cockspur white		X		X
	crimson cloud		X		X
	enchantress		X		X
	Jack Evans		X		X
	Washington white		X		X
hawthorn, Indian ( <i>Rhaphiolepis indica</i> )	ballerina	X	X	X	X
heather, twisted ( <i>Erica cinerea</i> )	Mediterranean pink		X		X
heliotrope ( <i>Heliotropum arborescens</i> )	lowa		X	X	X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
hemlock, Canada ( <i>Tsuga canadensis</i> )			X		X
hibiscus ( <i>Hibiscus</i> spp.)	blue bird brilliant hula girl		X X X		X X X
( <i>Hibiscus rosa-sinensis</i> )	Seminole pink		X	X	X
holly ( <i>Ilex</i> x 'Nellie R. Stevens')	Nellie R. Stevens	X	X	X	X
( <i>Ilex</i> x <i>attenuata</i> )	fosteri Savannah		X X		X X
holly, blue ( <i>Ilex</i> x <i>meserveae</i> )	blue boy blue girl China girl		X X X		X X X
holly, cassine ( <i>Ilex cassine</i> )		X	X	X	X
holly, Chinese ( <i>Ilex cornuta</i> )	burfordii needlepoint		X X		X X
holly, Japanese ( <i>Ilex crenata</i> )	compacta hellerie Japanese northern beauty steeds	X	X X X X	X	X X X X
holly, yaupon ( <i>Ilex vomitoria</i> )			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
honeysuckle ( <i>Lonicera xylosteum</i> ) ( <i>Lonicera japonica</i> ) ( <i>Lonicera tatarica</i> )  ( <i>Lonicera x brownii</i> )	Claveyl dwarf halliana Canadian white Zabelli dropmore scarlet		X X X X X		X X X X X
hop bush, purple ( <i>Dodonea viscosa</i> )	purpurea	X	X	X	X
hosta ( <i>Hosta sieboldii</i> ) ( <i>Hosta lancifolia</i> )	albo marginata		X X		X X
ice plant ( <i>Carpobrotus edulis</i> )		X	X	X	X
ice plant, rosea ( <i>Drosanthemum floribundum</i> )		X	X	X	X
ice plant, white trailing ( <i>Delosperma alba</i> )		X	X	X	X
ice plant, purple ( <i>Lampranthus productus</i> )		X	X	X	X
Ice plant, red spike ( <i>Cephalophyllumalstonii</i> )		X	X	X	X
Impatiens ( <i>Impatiens</i> spp.)			X		X
iris ( <i>Iris</i> spp.)	dwarf blue wedgewood		X X		X X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
Ivy, English ( <i>Hedera helix</i> )	Bulgaria thorndale		X X		X X
jasmine, Asian ( <i>Trachelospermum asiaticum</i> )			X		X
jasmine, star ( <i>Trachelospermum jasminoides</i> )			X		X
Juniper ( <i>Juniperus</i> spp.)	Arcadia Armstrong bar harbor blue chip blue Pacific blue rug blue star broadmoor buffalo calgary carpet emerald sea emerald spreader endora compacta fruitlandi green gold tip hetzi	X   X	X X X X X X X X X X X X X X X X X X X X	X   X  X	X X X X X X X X X X X X X X X X X X X X





		Container Grown Ornamentals Acceptable Application Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
juniper ( <i>Juniperus procumbens nana</i> )	prostrate Japanese garden	X	X	X	X
juniper ( <i>Juniperus sabina</i> ' <i>tamariscifolia</i> ')	tamarix	X	X	X	X
juniper ( <i>Juniperus scopulorum</i> )	scopulorum skyrocket	X	X	X	X
king palm ( <i>Archontophoenix cunninghamiana</i> )		X	X	X	X
lantana ( <i>Lantana sellowiana</i> )		X	X	X	X
laurel, Carolina cherry ( <i>Prunus caroliniana</i> )	bright n' tight	X	X	X	X
laurel, mountain ( <i>Kalmia latifolia</i> )			X		X
leucothoe ( <i>Leucothoe fontanesiana</i> )			X		X
ligustrum, Japanese ( <i>Ligustrum japonicum</i> )			X		X
lily ( <i>Agapanthus</i> spp.)	streamline		X		X
Lily of the Nile ( <i>Agapanthus africanus</i> )	albus Peter Pan		X X		X X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
lilyturf ( <i>Liriope muscari</i> )	evergreen giant		X		X
	lilac beauty	X	X	X	X
	majestic	X	X	X	X
	Monroe white		X		X
	silvery sunproof variegata		X X		X X
lilyturf, creeping ( <i>Liriope spicata</i> )			X		X
magnolia, saucer ( <i>Magnolia x soulangeana</i> )		X	X	X	X
mandeville ( <i>Mandevilla splendens</i> ) ( <i>Mandevilla x amabilis</i> )	Red Riding Hood	X	X	X	X
	crimson jewel	X	X	X	X
maple, amur ( <i>Acer ginnala</i> )	emerald elf	X	X	X	X
maple, Japanese ( <i>Acer palmatum</i> )			X		X
maple, Norway ( <i>Acer platanoides</i> )			X		X
maple, red† ( <i>Acer rubrum</i> )	red sunset	X	X	X	X
maple, silver ( <i>Acer saccharinum</i> )			X		X
maple sugar† ( <i>Acer saccharum</i> )			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
marguerite, blue ( <i>Felicia amelloides</i> )		X	X	X	X
marigold ( <i>Tagetes patula</i> )	honeycomb variegata wheeleris dwarf		X X X		X X X
mock orange† ( <i>Philadelphus</i> spp.)	golden snowflake double white		X X		X X
mondo grass ( <i>Ophiopogon japonicus</i> )			X		X
moss rose ( <i>Portulaca grandiflora</i> )	sunnyside		X		X
mountainash ( <i>Sorbus aucuparia</i> )			X		X
myrtle, crape ( <i>Lagerstroemia indica</i> )	faurei langer muskogee standard pink zuni		X X X X X		X X X X X
myrtle, wax ( <i>Myrica californica</i> )		X	X	X	X
narcissus ( <i>Narcissus</i> spp.)			X		X

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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
New Zealand flax ( <i>Phormium</i> spp.)	rainbow chief	X	X	X	X
	rainbow queen	X	X	X	X
( <i>Phormium tenax</i> )	Jack Spratt	X	X	X	X
oak, laurel ( <i>Quercus laurifolia</i> )			X		X
oak, pin ( <i>Quercus palustris</i> )			X		X
oak, red ( <i>Quercus rubra</i> )			X		X
oak, southern ( <i>Quercus virginiana</i> )			X		X
oak, willow ( <i>Quercus phellos</i> )			X		X
oleander ( <i>Nerium oleander</i> )	hardy red		X		X
	Mrs. Roeding	X	X	X	X
	petite pink		X		X
	sister agnes		X		X
osmanthus, holly leaf ( <i>Osmanthus heterophyllus</i> )	goshiki	X	X	X	X
osteospermum ( <i>Osteospermum fruticosum</i> )	whirligig		X		X
pachysandra ( <i>Pachysandra terminalis</i> )			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
palm, bangalow ( <i>Archontophoenix cunninghamiana</i> )			X		X
palm, bismark ( <i>Bismarckia nobilis</i> )			X	X	X
palm, California fan ( <i>Washingtonia filifera</i> )		X	X	X	X
palm, cardboard ( <i>Zamia furfuracea</i> )		X	X	X	X
palm, majesty ( <i>Ravenea rivularis</i> )		X	X	X	X
palm, paurotis ( <i>Acoelorrhaphe wrightii</i> )		X	X	X	X
palm, queen ( <i>Syagrus romanzoffianum</i> )		X	X	X	X
pampas grass ( <i>Cortaderia selloana</i> )	ivory feathers		X		X
pansy ( <i>Viola x wittrockiana</i> )			X		X
paper flower ( <i>Bougainvillea glabra</i> )	Barbara Karst	X	X	X	X
peach† ( <i>Prunus persica</i> )			X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
pepper tree, California ( <i>Schinus molle</i> )		X	X	X	X
periwinkle, dwarf ( <i>Vinca minor</i> )			X		X
petunia ( <i>Petunia x hybrida</i> )	picoti		X		X
philodendron, tree ( <i>Philodendron selloum</i> )		X	X	X	X
photinia, red tip ( <i>Photinia x fraseri</i> )			X		X
pieris ( <i>Pieris taiwanensis</i> )			X		X
pieris, Japanese ( <i>Pieris japonica</i> )	mountain fire		X		X
pine, Afghan ( <i>Pinus eldarica</i> )		X	X	X	X
pine, aleppo ( <i>Pinus halapensis</i> )		X	X	X	X
pine, Austrian black ( <i>Pinus nigra</i> )		X	X	X	X
pine, Canary Island ( <i>Pinus canariensis</i> )		X	X	X	X
pine, Japanese black ( <i>Pinus thunbergii</i> )		X	X	X	X

		Container Grown Ornamentals Acceptable Application Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
pine, loblolly ( <i>Pinus taeda</i> )			X		X
pine, longleaf ( <i>Pinus palustris</i> )			X		X
pine, mugo or Swiss Mt. ( <i>Pinus mugo</i> )			X		X
pine, Scotch · ( <i>Pinus sylvestris</i> )			X		X
pine, slash ( <i>Pinus elliotii</i> )			X		X
pine, Virginia ( <i>Pinus virginiana</i> )			X		X
pine, white ( <i>Pinus strobus</i> )		X	X	X	X
pineapple, guava† ( <i>Feijoa sellowiana</i> )			X		X
pittosporum, ( <i>Pittosporum tobira</i> )	Wheeler's dwarf shimi creme de menth golf ball	X X X	X X X	X X X	X X X
plumbago, cape ( <i>Plumbago auriculata</i> )	royal cape	X	X		X
plume grass ( <i>Erianthus ravennae</i> )			X	X	X



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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
potentilla ( <i>Potentilla fruticosa</i> ) ( <i>Potentilla nepalensis</i> )	abbotswood		X X		X X
privet ( <i>Ligustrum x vicaryii</i> ) (Ligustrum japonicum)	golden vicary regal texanum yellow tipped	X	X X X X	X	X X X X
privet, glossy ( <i>Ligustrum lucidum</i> )			X		X
pyracantha or firethorn ( <i>Pyracantha 'Gnome'</i> ) ( <i>Pyracantha coccinea</i> ) ( <i>Pyracantha koidzumii</i> )	gnome lalandei victory		X X	X	X X
queen palm ( <i>Arecastrum rammanzoffianum</i> )			X		X
quince, Japanese† ( <i>Chaenomeles Japonica</i> )			X		X
red hot poker ( <i>Kniphofia uvaria</i> )	flamenco	X	X	X	X
redbud, eastern ( <i>Cercis canadensis</i> )			X	X	X
redwood, coast ( <i>Sequoia sempervirens</i> )		X	X	X	X

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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
rhododendron ( <i>Rhododendron</i> spp.)	album Cunningham white PJM purple gem silvery pink		X X X X X X		X X X X X X
rhododendron, Carolina ( <i>Rhododendron carolinianum</i> )			X		X
rhododendron, catawba ( <i>Rhododendron catawbiense</i> )			X		X
rhododendron, rhodie max - rosebay ( <i>Rhododendron maximum</i> )			X		X
ribbon grass ( <i>Phalaris arundinacea</i> )			X		X
rockcress ( <i>Arabis caucasica</i> )	snowcap		X		X
rose† ( <i>Rosa banksiae</i> )	luta		X		·X
rose, groundcover ( <i>Rosa</i> x Noare) ( <i>Rosa</i> x Noaschnee) ( <i>Rosa</i> x Noatrum)	flower carpet red flower carpet white flower carpet pink	X X X	X X X	X X X	X X X
rose, knockout shrub ( <i>Rosa</i> spp. hybrid)	knockout	X	X	X	X

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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
rosemary† ( <i>Rosmarinus officinalis</i> )			X		X
rosemary, bog ( <i>Andromeda polifolia</i> )	nana		X		X
salvia ( <i>Salvia farinacea</i> )	rhea		X		X
sedge, leather leaf ( <i>Carex buchananii</i> )		X		X	X
sedum ( <i>Sedum spurium</i> )	dragon blood red red carpet yellow		X X X		X X X
silk tree ( <i>Albizia julibrissin</i> )		X	X	X	X
smoketree, royal purple ( <i>Cotinus coggygia</i> )	royal purple		X		X
snapdragon ( <i>Antirrhinum</i> spp.)			X		X
snow-in-summer ( <i>Cerastium tomentosum</i> )		X	X	X	X
snowball, common ( <i>Viburnum opulus</i> )	sterile	X	X	X	X
sourwood ( <i>Oxydendrum arboreum</i> )			X		X

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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
spiraea ( <i>Astilbe X arendsii</i> )	fanall		X		X
spiraea ( <i>Spiraea</i> spp.)	Anthony Waterer red dolchica froebeli pink goldenflame red snowmound white Van Houtte white		X X X X X X		X X X X X X
spiraea, garland ( <i>Spiraea x arguta</i> )			X		X
spruce, Black Hills ( <i>Picea glauca</i> var <i>densata</i> )			X		X
spruce, Colorado blue ( <i>Picea pungens</i> )	glauca	:X	X	X	X
spruce, dwarf Alberta ( <i>Picea glauca</i> v. <i>albertiana</i> )	conica	X	X	X	X
spruce, Norway ( <i>Picea abies</i> )			X		X
spruce, white ( <i>Picea glauca</i> )	conica		X		X
spurge, Japanese ( <i>Pachysandra terminalis</i> )	green sheen	X	X	X	X
sweet bay ( <i>Laurus nobilis</i> )			X	X	X

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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
sweetflag ( <i>Acorus calamus</i> ) ( <i>Acorus gramineus</i> )	ogon	X	X	X	X
sweetgum ( <i>Liquidambar styraciflua</i> )			X		X
sweet olive ( <i>Osmanthus fragrans</i> )			X	X	X
sycamore ( <i>Platanus occidentalis</i> ) ( <i>Platanus racemosa</i> )	American California	X	X	X	X
tea tree, New Zealand ( <i>Leptospermum scoparium</i> )	ruby glow martini	X	X	X	X
tree fern (tiki fern) ( <i>Asparagus virgatus</i> )			X		X
trumpet flower or Carolina Jessamine ( <i>Gelsemium sempervirens</i> )			X		X
tulip ( <i>Tulip</i> spp.)	apeldoorn		X		X
tufted hairgrass ( <i>Deschampsia caespitosa</i> )			X		X
verbena, shrub ( <i>Lantana sellowiana</i> )			X		X
Verbena, St. Pa'ul's ( <i>Verbena peruviana</i> )	St. Paul		X		X

		Container Grown Ornamentals Acceptable Application Method Noted by a (X)		Field/Landscape Grown Ornamentals Acceptable Application Method Noted by a (X)	
Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
viburnum ( <i>Viburnum</i> spp.)	American cranberry bush arrowwood European cranberry bush linden Mohican wright		X  X X  X X X		X  X X  X X X
vinca (periwinkle) ( <i>Vinca minor</i> )			X		X
windmill palm ( <i>Trachycarpus fortunei</i> )			X		X
wisteria, Japanese ( <i>Wisteria floribunda</i> )	Texas purple	X	X	X	X
xylosma ( <i>Xylosma congestum</i> )			X		X
yarrow ( <i>Achillea</i> spp.)			X		X
yaupon ( <i>Ilex vomitoria</i> )	dwarf		X		X
yellow bells ( <i>Tacoma stans</i> )		X	X	X	X
yesterday today-and- tomorrow ( <i>Brunfelsia pauciflora</i> )	floribunda	X	X	X	X

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Name	Tolerant Cultivars	Over the Top	Directed	Over the Top	Directed
Yew ( <i>Taxus cuspidata</i> ) ( <i>Taxus x media</i> )	capitata denisiformis	X	X X	X	X X
yucca, red ( <i>Hesperaloe parvifolia</i> )		X	X	X	X

†Ornamental species only. Do not use on plants grown for food.

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment.

**PESTICIDE STORAGE:** Store in original container in dry, cool, secured storage area. Store this product above 32°F to avoid crystallization. If crystals form or product freezes, move product to area with ambient temperature above 32°F and shake well until crystals have dissolved.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### CONTAINER HANDLING:

**Nonrefillable Container (five gallon 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 and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. If recycling is not available, puncture or 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 direction 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 risk 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 Control Solutions, Inc. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

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**QUALI-PRO®**

# DITHIOPYR L

## Specialty Herbicide



Pre-emergence and Early Post-emergence Herbicide for Weed Control in Established lawns, Commercial sod farms, Non-cropland and Industrial Sites, Ornamental Turf (including Golf Course Fairways, Roughs, Tee Boxes), Container-grown Ornamentals, Field-grown Ornamentals, and Landscape Ornamentals

**ACTIVE INGREDIENT:** % BY WT.

Dithiopyr: S, S'-dimethyl 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-3,5-pyridinedicarbothioate.....	22.0%
<b>OTHER INGREDIENTS:</b> .....	<b>78.0%</b>
<b>TOTAL:</b> .....	<b>100.0%</b>

Contains 1.9 lbs active ingredient per gallon or 229 grams per liter.

**NET CONTENTS:**  
**1 GALLON**

**KEEP OUT OF REACH OF CHILDREN**  
**WARNING / AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

EPA Reg. No. 53883-399

EPA Est No. 37429-GA-001



**ADAMA**

Manufactured for:

**Control  
Solutions Inc.**

5903 Genoa-Red Bluff, Pasadena, TX 77507

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