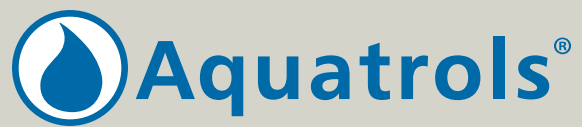


We 
Turf



**2020 Guide to
Turf Management
Products**

For more than 60 years

Aquatrols has been the world leader in the development and manufacturing of cutting edge soil surfactants and other specialty technologies that improve soil-water-plant interactions.

Today we offer a portfolio of conservation based solutions focused on three pillars of healthy plant growth and environmental stewardship: **water management, nutrition conservation, and A.I. distribution and retention.**

Conservation is central to everything we do, a concept that is reflected in our motto, “**Respect the Drop.**” What does that mean? Internally it’s a reminder that each one of our employees represents 60 years of Aquatrols’ heritage, something much larger than ourselves. Externally it’s a reminder that water is vital to every aspect of life. If we’re going to continue to grow as a population and sustain our way of life, we need to be responsible and respectful consumers of water and other natural resources.



Guide to Turf Management Products



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Water Management Products





Unique dual-action formulation to maintain turf quality and consistency.



Zipline® features a dual-action surfactant blend specifically designed for turf managers looking to get the most out of their playing surfaces while maintaining turf quality and consistency.

Its unique combination of soil surfactants improves water infiltration and balanced hydration throughout the profile. Zipline has demonstrated excellent dew suppression following application, saving turf managers precious time whipping or dragging turf.

What Zipline Does

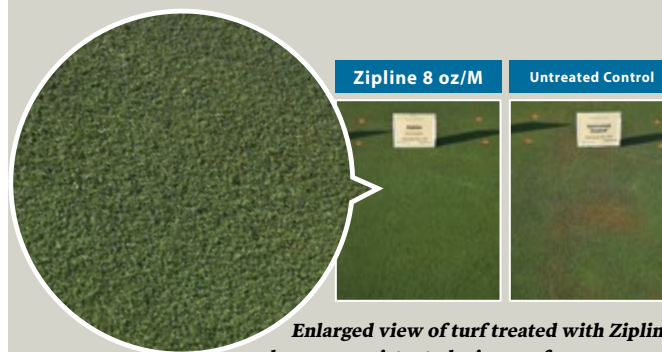
In university studies and field use, Zipline has demonstrated a multitude of benefits including:

- Balanced hydration and infiltration
- Proven stress tolerance and turf quality consistency
- Excellent dew suppression
- Aids in mineralization; increases the bio-availability of nutrients
- Delivers a diverse community of metabolites that improve plant health
- Reduction in disease presence

Bentgrass Greens Turf Quality



Maintain Consistent Quality

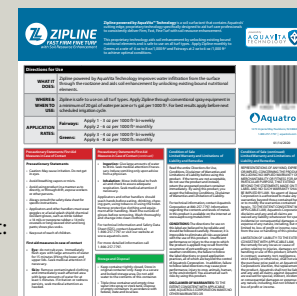


Enlarged view of turf treated with Zipline shows a consistent playing surface compared to the untreated control.

Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at: aquatrols.com/sds-labels/





Unrivaed control of the rootzone environment for ultimate playability.



Revolution® is the world's leading soil surfactant and the only wetting agent that goes beyond water repellency issues, providing comprehensive water management and plant health benefits as well.

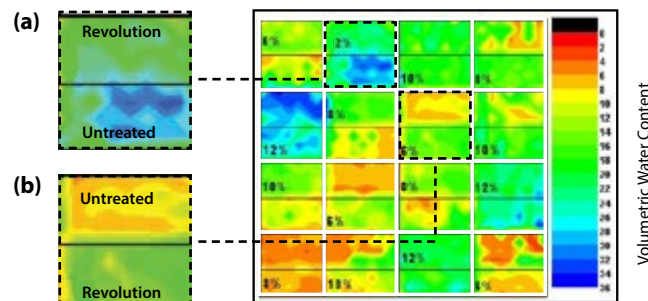
Revolution's patented formulation creates a thin continuous film of water in the soil profile, balancing air-to-water ratios and increasing the performance of turf under stress.

Revolution benefits include:

- Exceptional consistency of horizontal and vertical moisture distribution
- Strengthens plant's natural ability to withstand stress and disease pressure
- Enhances efficiency of applied chemical inputs

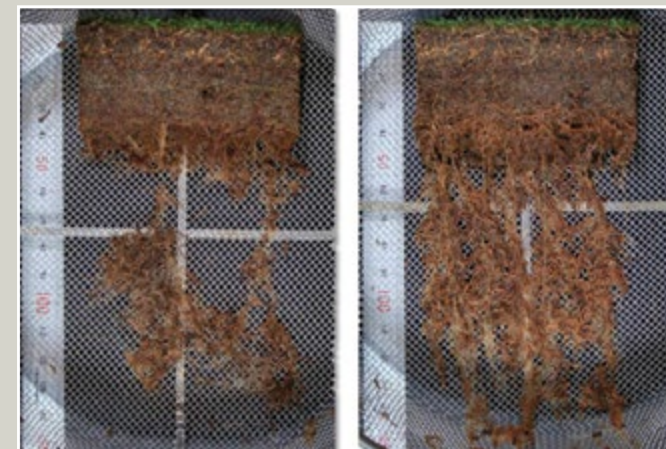
Keep Moisture Levels Uniform

Trial results from the University of Arkansas indicate that the regular use of Revolution results in more uniform soil moisture under a wide variety of conditions. When more water than necessary was applied, the Revolution treated plots had lower, more favorable soil moisture levels while the untreated plots' moisture levels were excessively high (a). When drought conditions were imposed, Revolution retained optimal levels of moisture in the treated plots while the untreated plots dried below acceptable levels (b).



Improved Plant Health

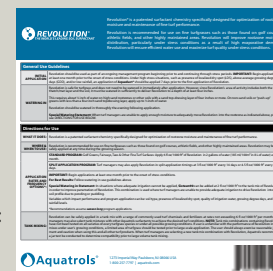
Revolution treated turf shows improved rooting.




Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at: aquatrols.com/sds-labels/





**Fast acting dual-action granular
that treats and prevents
localized dry spot.**

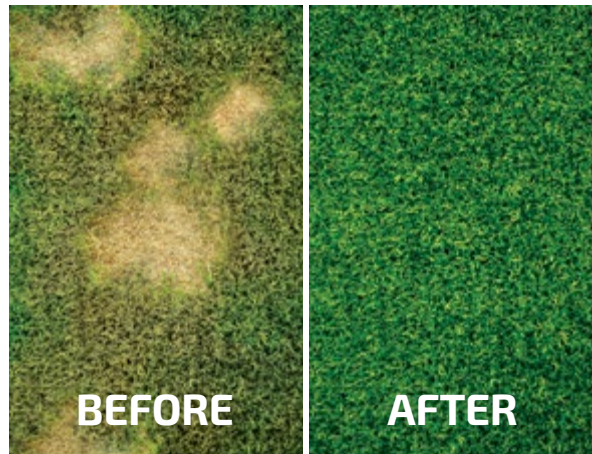


Aqueduct Flex benefits include:

- Provides rapid recovery of stressed turf with visible results in as little as **3 DAYS** when used at the treatment rate
- Provides up to **30-DAY PROTECTION** against the development of localized dry spot when applied on a monthly basis at the preventative rate
- Safe to use on all turf varieties and areas, including golf course greens, tees, fairways, athletic fields, and residential lawns
- Safe to use on ornamental gardens, landscapes, trees, and shrubs

Flexible options for dealing with stressful conditions

Aqueduct® Flex contains a fast acting dual-action formula specifically designed to give turf care professionals superior performance with flexible options for dealing with stressful conditions, including localized dry spot.



**Performance Driven Flexibility for All
Turf Varieties**

Treats and prevents symptoms of stressful conditions for all turf varieties.

1 TREATMENT



2 PREVENTATIVE





Control your water, control your results.



Dispatch® is a patented water saving soil surfactant technology from Aquatrols. By improving the penetration and infiltration of water into soil, Dispatch maximizes irrigation efficiency and reduces the amount of water lost to runoff or evaporation. When used over the course of a season, Dispatch has proven to reduce water usage by up to 25% on cool season grasses and up to 50% and warm season grasses.

Dispatch benefits include:

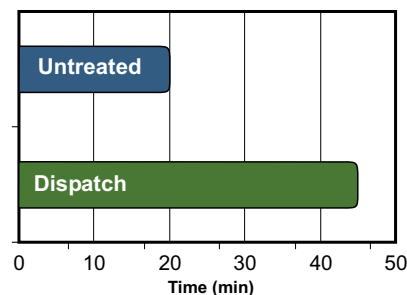
- Increases water penetration and irrigation efficiency
- Significantly reduces runoff
- Improved delivery of soil applied chemicals

Increase Infiltration / Decrease Runoff

Studies at California State Polytechnic University, Pomona, show that Dispatch significantly increases infiltration rates and reduces runoff.

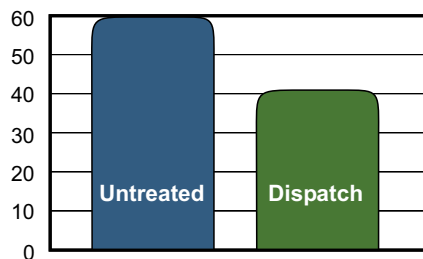
Sustained Infiltration

Infiltration was sustained over twice as long in the Dispatch treated plots.



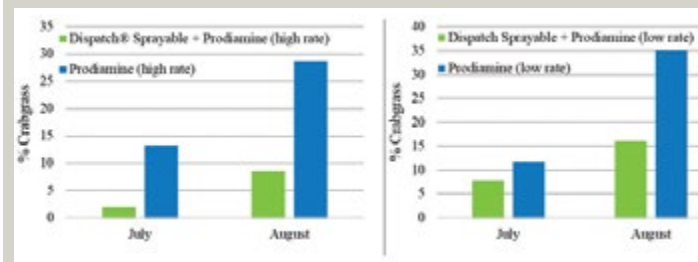
Reduced Runoff

Total irrigation runoff was notably reduced in a loamy sand on an 8% slope.



Dispatch ensures infiltration and distribution

Dispatch ensures infiltration and distribution of inputs uniformly across the soil for better performance and efficiency. Research studies conducted over two consecutive years show that Dispatch Sprayable tank-mixed with some pre-emergent herbicides provides better crabgrass control than herbicides alone.



Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at: aquatrols.com/sds-labels/





Rapid recovery for stressed turf.



Aqueduct® is a rapid recovery soil surfactant that is specifically designed to quickly alleviate localized dry spot. It can also be used as a pre-treatment tool to correct problem areas on turf before starting a regular preventative soil surfactant program.

Aqueduct moves water deeply into problem areas, reducing water repellency and restoring the rootzone's ability to regain optimum moisture levels.

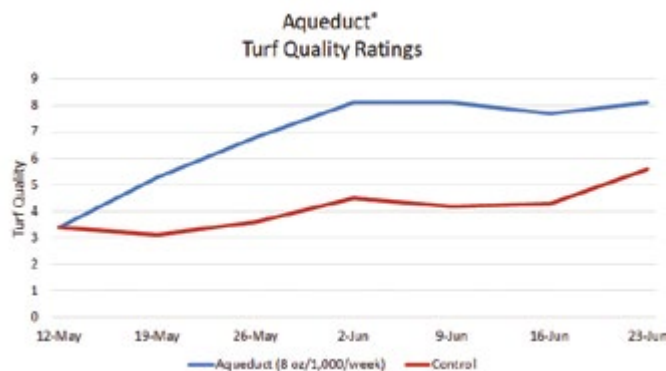
Aqueduct benefits include:

- Treats and eliminates localized dry spots
- Reduces turf wilt
- Promotes rapid recovery of stressed turf

Maintain Turf Quality

At the University of Florida, Fort Lauderdale Research and Education Center (FLREC), turf recovery trials were conducted on a bermudagrass USGA green that is prone to severe LDS. Aqueduct was applied at approximately 1-week intervals until the LDS symptoms subsided. The results were as follows:

- Improvement in 5 days
- Drastically reduced LDS
- Increased moisture
- Better turfgrass quality



Knock Out Localized Dry Spot

A study conducted by the Chicago Golf District Association shows that Aqueduct was not only effective in reducing the incidence of localized dry spot, but was able to maintain control well into the season.



Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

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aquatrols.com/sds-labels/





Prevent water repellency and promote turf uniformity.



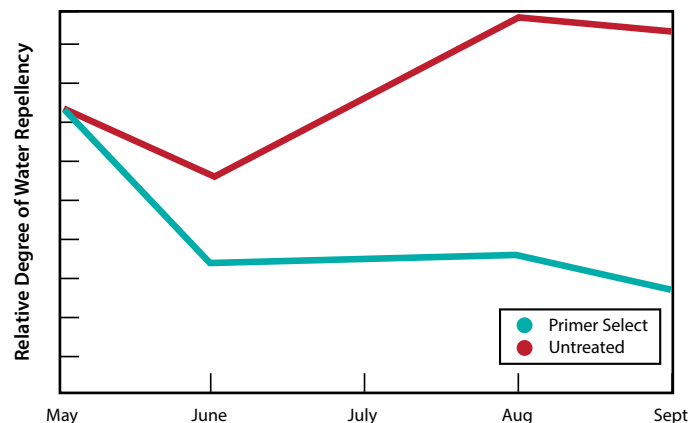
Primer® Select is a high performance soil surfactant that is the foundation of an effective rootzone management program. It's safe for all turf species, throughout the entire growing season and in all climates.

Primer Select benefits include:

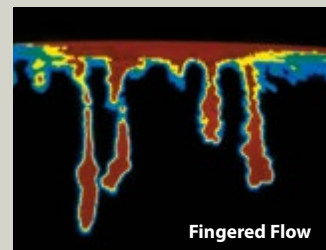
- Prevents water repellency issues
- Promotes turf uniformity
- Flexible application rates to fit different soil types and conditions

Combat Water Repellency

Primer Select reduces soil water repellency that commonly occurs in the thatch and upper 1-2 inches of the soil profile of highly managed turf, particularly greens. By managing soil hydrophobicity, Primer Select enhances penetration and infiltration of water into the rootzone throughout the growing season.

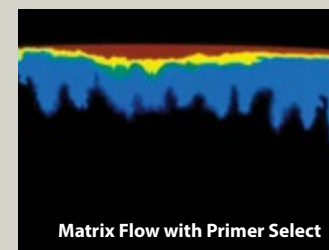


Establish Matrix Flow



Fingered Flow

Computer enhanced photo showing "Fingered Flow" water movement through an untreated USGA sand green profile.



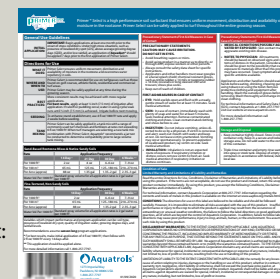
Matrix Flow with Primer Select

Computer enhanced photo showing "Matrix Flow" (uniform downward and lateral flow) water movement through a USGA sand green profile treated with Primer Select.

Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at: aquatrols.com/sds-labels/





Sixteen90™ is an economical soil surfactant that gives you guaranteed safe protection against water repellency problems and promotes turf uniformity.

It outperforms the competition in providing more consistent management of water repellency. Sixteen90 can be used at various rates, depending on the desired length of control.

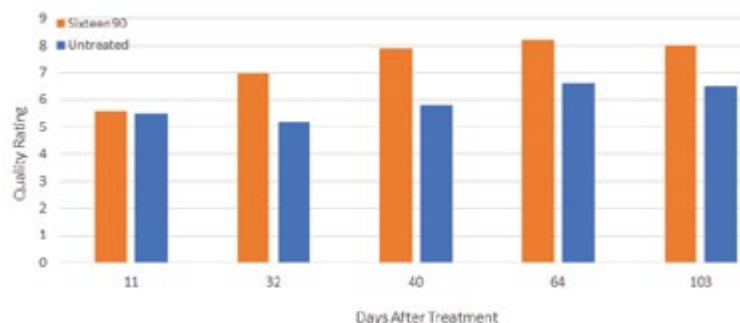
The economical soil surfactant with staying power.

Sixteen90 benefits include:

- Improves water movement and combats water repellency issues
- Safe for use on all turf varieties
- Economical to use on large turf areas like fairways and sports fields

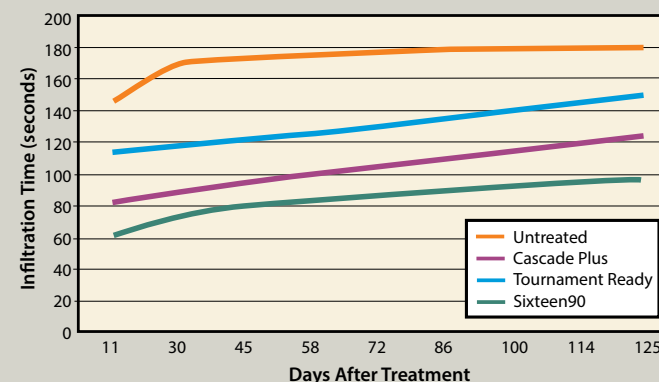
Continued Quality

Not only does Sixteen90 give you long-term control over water repellency, it offers improvements in turf quality as well. This study conducted at the University of Florida - Ft. Lauderdale shows that Sixteen90 maintained optimal Bermudagrass quality over the duration of the study.



In It For The Long Haul

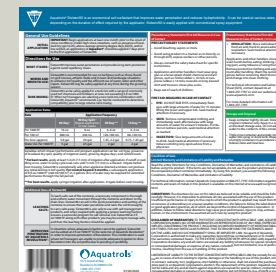
Research conducted in Garden City, Kansas shows that Sixteen90 provided the greatest reduction in water repellency, and performed the most consistently throughout the four-month test period.



Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at: aquatrols.com/sds-labels/





Superior formulation for improved hand watering.



Featuring a superior formulation, the Advantage Plus line is a complete and balanced system for delivering improved performance during syringing and hand watering.

Along with the standard Advantage Plus pellet, two new formulations are available for turf managers seeking additional benefits during hand watering: Advantage Plus HF and Advantage Plus Seaweed.

- Superior Advantage Plus formulation to improve hand watering
- Distributes applied water more uniformly into the soil profile
- Pellet stays intact and dissolves evenly during application



Superior formulation combined with a unique acid package to:

- Aid in hydration
- Improve plant vigor
- Increase stress tolerance
- Promote more complete root development



Combined with high quality seaweed extract which:

- Promotes fast recovery of stressed turf
- Stimulates root growth
- Promotes the growth of healthy, vigorous turfgrass



Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at:
aquatrols.com/sds-labels/



Active Ingredients Products





Multiple-Mode of Action Fungicide



Dovetail is a dual action fungicide designed to provide users with broad spectrum control of many prominent turfgrass diseases. Dovetail is labeled for use on all turf species and is a great tool in any rotational fungicide program.

See label for a complete list of uses and applications.

- Labeled for all turf species
- Dual modes of action
- Broad spectrum disease control
- Locally systemic
- Excellent resistance management tool
- Long lasting – up to 21 days
- Beneficial in tank mixes

TURF DISEASES CONTROLLED

Anthracnose (<i>on Poa annua</i>)	Leaf Spot (<i>Drechslera spp.</i>)
Brown Patch	Pink Snow Mold (WA, OR, CA)
Dollar Spot	

RECOMMENDED RATES

Turf (non-residential)	1 - 4 fl oz/1000 ft ²
------------------------	----------------------------------

Active ingredient: Thiophanate-methyl + Iprodione

FRAC Class: Groups 1 and 2

Formulation: Liquid (Emulsifiable concentrate)

Package size: 2 x 2.5 gallon case

EPA Registration Number: 94396-12



Directions for Use

See the product label for complete directions for use such as Precautionary Statement and Recommended Turf Application Rates.

All Aquatrols labels can be found online at:
aquatrols.com/sds-labels/





For proven control of *Poa annua* (Annual Bluegrass) on fine turf or lawns.



PoaConstrictor® is labeled for both pre-emergent and post-emergent control of many annual grasses and broadleaves on ornamental turf such as golf courses, sod farms, parks, cemeteries and residential* or commercial lawns. PoaConstrictor can be used on cool season grasses and overseeded Bermudagrass.**

See label for a complete list of uses and applications. Do not use PoaConstrictor on greens.

- Broad-spectrum control
- Higher AI concentration, lower use rates
- Unique water-based formulation
- Pre-emergent and post-emergent application
- Multi-season use: fall (germination) and spring (growth) periods

WEED SPECIES CONTROLLED

PRE-EMERGENCE

Annual Grasses

Annual Bluegrass	Large Crabgrass
Barnyardgrass	Smooth Crabgrass
Canarygrass	Yellow Foxtail
Green Foxtail	

Annual Broadleaves

Bur Clover	Common Purslane
Common Chickweed	Redroot Pigweed

Reduce Competition

Yellow Nutsedge	Purple Nutsedge
-----------------	-----------------

PRE-EMERGENCE/EARLY POST-EMERGENCE

Smooth Crabgrass
Large Crabgrass

POST-EMERGENCE

Annual Grasses

Bluegrass, annual (*Poa annua*)

Annual Broadleaves

Chickweed, common (*Stellaria media*)
Clover, white (*Trifolium repens*)

HRAC Class: Group 16 - herbicide

Active ingredient: Ethofumesate

Formulation: 4 lb SC

Package size: 4 x 3/4 gallon jug

EPA Registration Number: 94396-1

** PoaConstrictor Herbicide is not intended for use by homeowners and may only be applied to residential lawns by professional applicators.*

*** Refer to label for varietal tolerance and use restrictions.*



Directions for Use

See the product label for complete directions for use such as Precautionary Statement and Recommended Turf Application Rates.

All Aquatrols labels can be found online at:
aquatrols.com/sds-labels/



Ensure uniform spreading & coverage of foliar products.



Waxy leaf surfaces can cause spray droplets to bead up, resulting in coverage gaps that can reduce the efficacy of foliar sprayed materials. CapSil® allows foliar directed sprays to spread evenly over the entire leaf surface, giving you full coverage with every application. CapSil ensures that you get the results you expect from foliar nutrients and pesticides without the added labor and expense of repeat treatments.

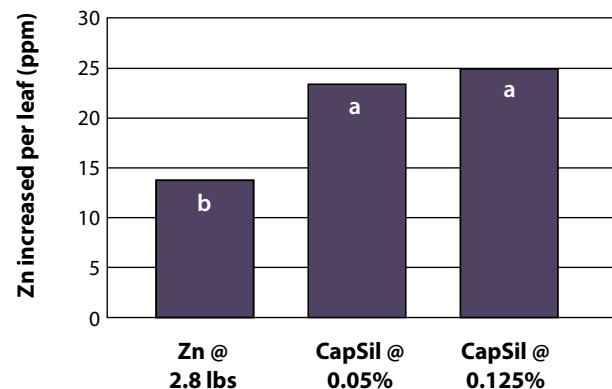
CapSil benefits include:

- Uniform spreading and coverage of all foliar applied products
- Reduced instances of wilt and disease
- Safe to use – no concerns of leaf burn

Get cuttings off to a great start

CapSil's unmatched ability to reduce surface tension makes it an indispensable part of your misting program. CapSil allows water to spread fully over leaf surfaces for rapid absorption and increased turgidity. Studies show that cuttings callous more quickly and root sooner when treated with CapSil.

CapSil Improves Uptake of Micronutrients



CapSil approved for organic use

OMRI's independent review certifies our compliance with national organic standards for production and processing. This gives our customers the peace of mind that CapSil is approved to use in their organic operations.

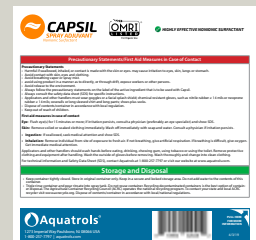


Learn more about OMRI Certification at: omri.org/about-omri-listed-products

Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at: aquatrols.com/sds-labels/





Specialty Products





Blast away problem carbonate deposits in your soil.

BLAST 
INJECTABLE®

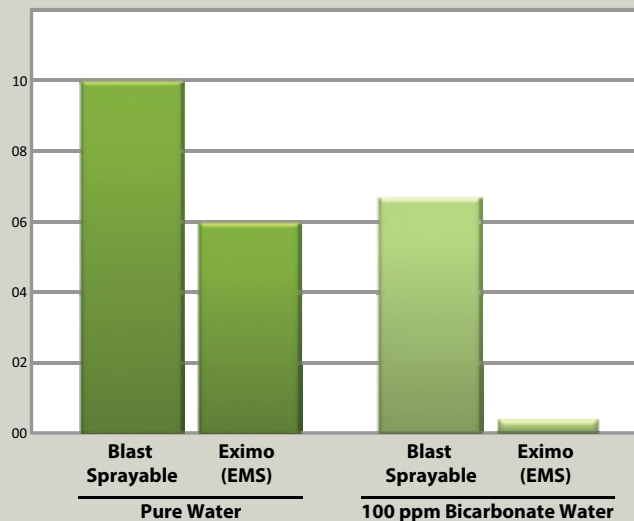
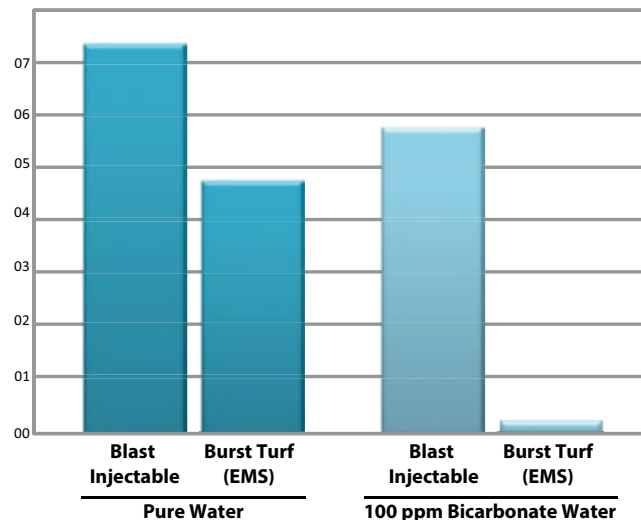
BLAST 
SPRAYABLE®

Carbonate deposits can build up in soil as a result of poor irrigation water quality, causing sealing of soils and reducing the effectiveness of irrigation, fertilization, and chemical programs. Blast® is a unique acid formulation combined with Synergy Technology™. It safely dissolves carbonate build-up in the soil, rapidly opens soil pores for better infiltration and percolation of water, and frees up calcium, magnesium and other bound nutrients.

Available in both sprayable and injectable formulations, Blast works quickly to eliminate these carbonate deposits, giving you a healthier growing environment and better turf.

Blast benefits include:

- Patented Synergy Technology ensures improved penetration, distribution and availability
- Frees up calcium, magnesium, and other essential nutrients in the soil
- Opens soil pores for better water movement



Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.



All Aquatrols labels can be found online at:
aquatrols.com/sds-labels/



Aquatrols
LeafShield®
Anti-Transpirant

Winter desiccation damage occurs when the amount of water lost through foliage exceeds the plant's ability to take up water through the roots. Exposure to winter wind and sun increases the rate of water lost through transpiration, robbing the plant of essential leaf moisture needed for survival.

LeafShield® provides safe and effective protection against desiccation injury. It forms a protective barrier that seals leaf stomata to reduce moisture loss. LeafShield dries to a thin, waxy layer that protects foliage without discoloration. It is safe to use on all plant types, including blue spruce and other sensitive varieties.

Protect turf, trees and shrubs from desiccation damage.

Safe, economical and easy to use

LeafShield's odorless, non-sticky formulation mixes easily with water. It washes effortlessly out of spray equipment with soap and water so cleanup is a breeze. It can be applied in sunny or cloudy conditions, further increasing ease of use.

- Costs less than similar products
- Protects turf against desiccation injury
- Safe for use on all turf and plant types
- Stays flexible and will not discolor foliage
- Will not clog nozzles or damage sprayer pump seals
- Economical enough for fairway protection



Directions for Use

See the product label for complete directions for use such as What It Does, Where and When to Use, and Application Rates.

All Aquatrols labels can be found online at:
aquatrols.com/sds-labels/





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