

AMENITY BROCHURE 2020



Aqua Aid Europe B.V.

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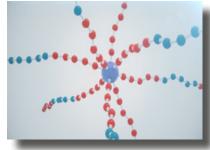
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Surfactants

Agua-Aid offers an extensive range of surfactant products for the professional turf industry. These surfactants can be split up into two major categories, state-of-the-art 3-D surfactants and conventional surfactants.

The 3-D surfactants are the most advanced surfactants in the market. These surfactants are backed up with various independent research and have field-proven results for numerous of years by the end users. The multi-branch regenerating and OARS technologies both hold different.

The multi-branch regenerating technology is completely different to other technologies currently used in the professional turf market. The difference between the traditional linear co-polymer molecules is that they are much higher in molecular weight and have multiple interactive sites (6 or 8 sites), therefore each branch is a wetting agent by itself.



Multi-branch regenerating

This branching will increase the interaction between the surfactant and the soil, this will cause very consistent moisture levels within the treated surface. The combination of the higher molecule weight and branching will positively affect the biodegradation of the product. As one branch is removed via biodegradation, a new lower molecular weight surface active species is regenerated. Co-block polymer this will continue to manage the water in the soil.



This technology is incorporated in all of our 3-D surfactants. This will reduce hydrophobic conditions on a sustainable basis. Independent/ research has shown the surfactants are able to reduce water uses of over 30 % while maintaining a healthy and visually optimal turf quality.

Another Aqua-Aid patented technology is the OARS technology. OARS stands for Organic Acid Redistribution System. The OARS technology controls soil water repellency by stripping the organic acid layer of the soil colloid. This dried out organic acid layer will form a wax layer on the soil colloid making these colloids hydrophobic, this is the main reason for Localized Dry Spots (LDS).

Other wetting agents mask the problem by heavily wetting the soil, this will not treat the problem because the sand colloids will remain hydrophobic. After using the OARS technology the soil will become hydrophilic again. The OARS technology is patented and backed up by independent research.



Clean sand particle



Sand particle with Organic Acid coating causing water repellency

Aqua-Aid offers 4 different 3-D surfactants. The **OARS HS** is a hydrating surfactant which includes the multi-branch regenerating and OARS technology. The **OARS PS** is a penetrating surfactant and also includes both technologies. **PBS-150** and **PBS-150** Granular are long lasting hydrating soil surfactants and consist of 100 % multi-branch regenerating technology.

The conventional surfactant range consists of three different products. These three products are all researched and field proven products for many years. Aquifer is a co-block polymer based omni directional hydrating surfactant. Aqua-Aid is very cost-effective penetrant formulated with high quality grade non-ionic surfactants. FWY-ISP is a unique injectable soil penetrant, designed to cover large surfaces.

Next to the sprayable surfactants mentioned, Aqua-Aid also offers a range of hand water pellets in the PROportioner System. These pellets are available in 4 different products, all with their own characteristics.



OARS HS

Soil Hydrating Surfactant

OARS HS Soil Hydrating Surfactant, is a combination of the university researched, field proven and patented Organic Acid Redistribution System, OARS, and multi-branched hydrating chemistry. **OARS HS** controls soil water repellency while providing uniform soil moisture and increased soil moisure retention.

PRODUCT DETAILS

- Removes humic coatings from hydrophobic soil particles
- Controls water repellency
- Hydrates the soil to improve moisture retention
- Reduces drought stress
- Consistent performance between applications to maintain adequate moisture in hard to wet soils

DIRECTIONS FOR USE

Golf, Sports & Lawn Turf

Apply 13 - 16 L/Ha at 30 day interval. After an initial 16L application, follow up with 13L/Ha with an interval of 4 - 6 weeks or as needed. Drought conditions can best me managened by applying 6 - 8 L/Ha at 15 day intervals. For extreme drought conditions with high temperatures and/or increased soil water repellency, apply 20 - 25 L/Ha in 800 L of water at 30 day intervals. Irrigate with sufficient water to deliver **OARS HS** to the soil profile, 3 mm or more is recommended.

Available in packaging of 20L, 208L and 1000L Please check availability with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Octahydroxy polyoxyalkylene	
polymers	.85,0%
Amine salt of alkly substituted	7 50/
maleic acid	7,5%
Water	7.5%



OARS PS

Soil Penetrating Surfactant

OARS PS, Soil Penetrating Surfactant, is a combination of the university researched, field proven and patented Organic Acid Redistribution System, OARS, and multi-branched hydrating chemistry. **OARS PS** controls soil water repellency while providing uniform soil moisture for a longer period of time.

PRODUCT DETAILS

- Removes humic coatings from hydrophobic soil particles
- Increases penetration of water
- · Provides firm, fast surfaces
- Improves water management efficiency
- · Controls soil water repellency / reduces LDS
- Longer lasting activity

DIRECTIONS FOR USE

Golf, Sports & Lawn Turf

Apply 13 - 16 L/Ha at 30 day interval. After an initial 16L application, follow up with 13L/Ha with an interval of 4 - 6 weeks or as needed. Difficult to manage areas will respond best by applying 6 - 8 L/Ha at 15 day intervals. For increased surface firmness, apply 20 - 25 L/Ha at 30 day intervals. Irrigate with sufficient water to deliver **OARS PS** to the soil profile, 3 mm or more is recommended.

Available in packaging of 20L, 208L and 1000L Please check availability with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Hexahydroxy polyoxyalkylene	
polymers	.85,0%
Amine salt of alkly substituted	7 50/
maleic acid	7,5%
Water	7.5%



PBS150

Multi-Branched Long-Term Surfactant

PBS150 is a long-term 3D surfactant utilizing a unique multibranched surfactant molecular structure to address the source of performance loss – biodegradation of the surfactant molecule by soil microbes. **PBS150** sustains a longer uniform soil moisture profile and can restore the uniform movement of water into and through the profile. When used in accordance with product directions, **PBS150** is easy to use, is not harmful to plants and can be applied at anytime of the year to avoid the detrimental impact of water repellency stress and localized dry spots.

PRODUCT DETAILS

- Reduces hydrophobic conditions on a sustainable basis
- Encourages a pattern of hydration and re-hydration that improves the amount of available water in the soil profile to meet the metabolic demands of the plant
- Restores the uniform movement of water into and through the soil matrix
- Improves stress tolerance
- Reduces water use up to 30%

DIRECTIONS FOR USE

Golf, Sports & Lawn Turf

Apply 16 - 25 L/Ha. Reapply after 150 days from last treatment, or as needed, if climatic conditions still exist for the formation of water repellency conditions.

Available in packaging of 20L, 208L and 1000L Please check availability with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Active Ingredient:
Octahydroxy polyoxyalklene
polymers100%



PBS150 Granular

Multi-Branched Long-Term Soil Surfactant

PBS150 Granular is a long-term granular surfactant utilizing a unique multi-branched surfactant molecular structure to address the source of performance loss – biodegradation of the surfactant molecule by soil microbes. This increased performance can reduce hydrophobic conditions on a sustainable basis for up to 150 days. **PBS150** Granular can also restore the uniform movement of water into and through the soil profile. When used in accordance with product directions, **PBS150** Granular is easy to use, is not harmful to plants and can be applied at anytime of the year to avoid the detrimental impact of water repellency stress and localized dry spots. **PBS150** Granular is safe to plants when used as recommended.

PRODUCT DETAILS

- Reduces hydrophobic conditions on a sustainable basis
- Encourages a pattern of hydration and re-hydration that improves the amount of available water in the soil profile to meet the metabolic demands of the plant
- Restores the uniform movement of water into and through the soil matrix
- Improves stress tolerance
- Reduces water use up to 30%
- Longevity up to 5 months
- True 3D surfactant

DIRECTIONS FOR USE

PBS150 Granular at 160 - 240 KG / Ha at 6 - 10 weeks interval. 160 KG of **PBS150** Granular equals 10L of PBS150 Liquid.

Available in bags of 25 kg Please check availability with your distributor

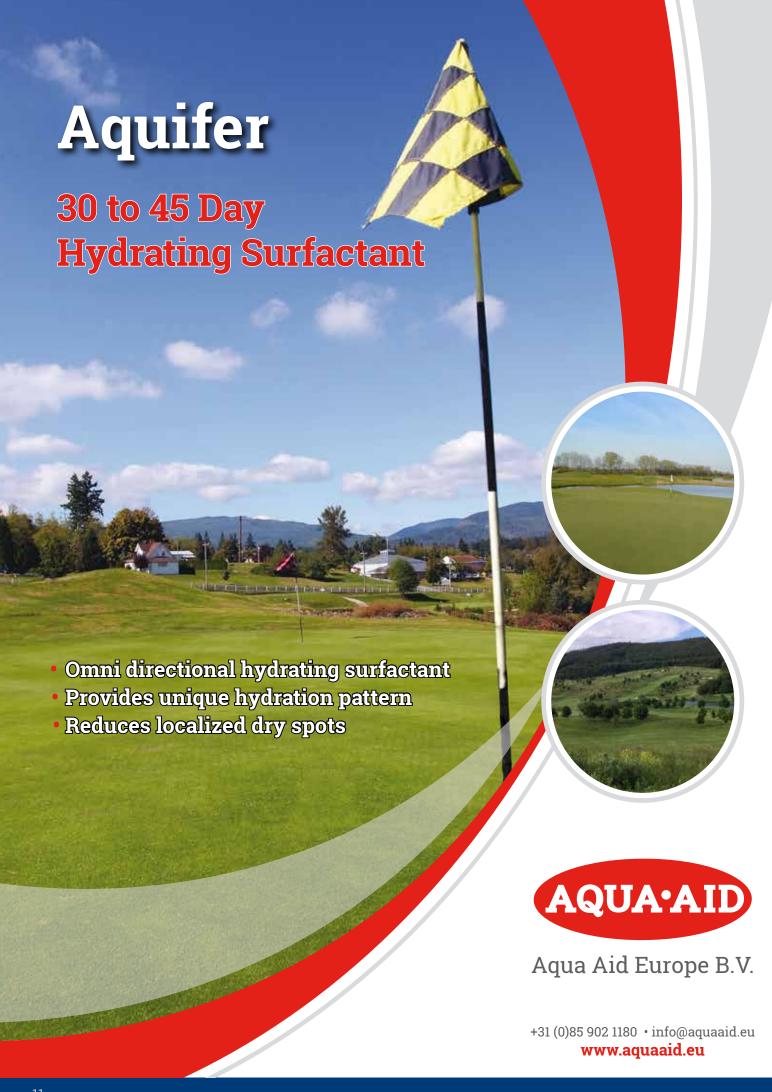
COUNTRY OF ORIGIN: The Netherlands



COMPOSITION:

Inert Ingredient:

Porous ceramic carrier 93.75%



Aquifer

30 to 45 Day Hydrator

Aquifer Liquid Surfactant has been designed to be the first choice when choosing a surfactant. **Aquifer** has a unique characteristic of producing downward and lateral movement of water (omni directional), which provides a uniform moisture profile throughout the soil structure for up to 45 days. This allows not only water but also nutrients to be distributed evenly through the root zone. The end result is less summer stress, reduced wilt, less localized dry spots, improved rewetting capability and improved plant performance.

Aquifer is a non-ionic and environmentally safe formulation of soil surfactants that will not burn and does not have to be watered direct in after application. **Aquifer** is ideal for dry, compacted and hydrophobic soils and has been designed to work in conjunction with a good water management program, injected through either irrigation systems and/or tank mixed for spray application.

PRODUCT DETAILS

- Reduces localized dry spots
- Reduces wilt and summer stress
- Increases water retention
- Uniform moisture soil profile
- Will not burn

DIRECTIONS FOR USE

Golf, Sports & Lawn Turf

Apply 13 - 16 L/Ha at 30 to 45 day intervals. Irrigate with sufficient water to deliver **Aquifer** to the soil profile, 3MM or more is recommended. Reapply after 120 days from last treatment, or as needed, if climatic conditions still exist for the formation of water repellency conditions, for improved plant health.

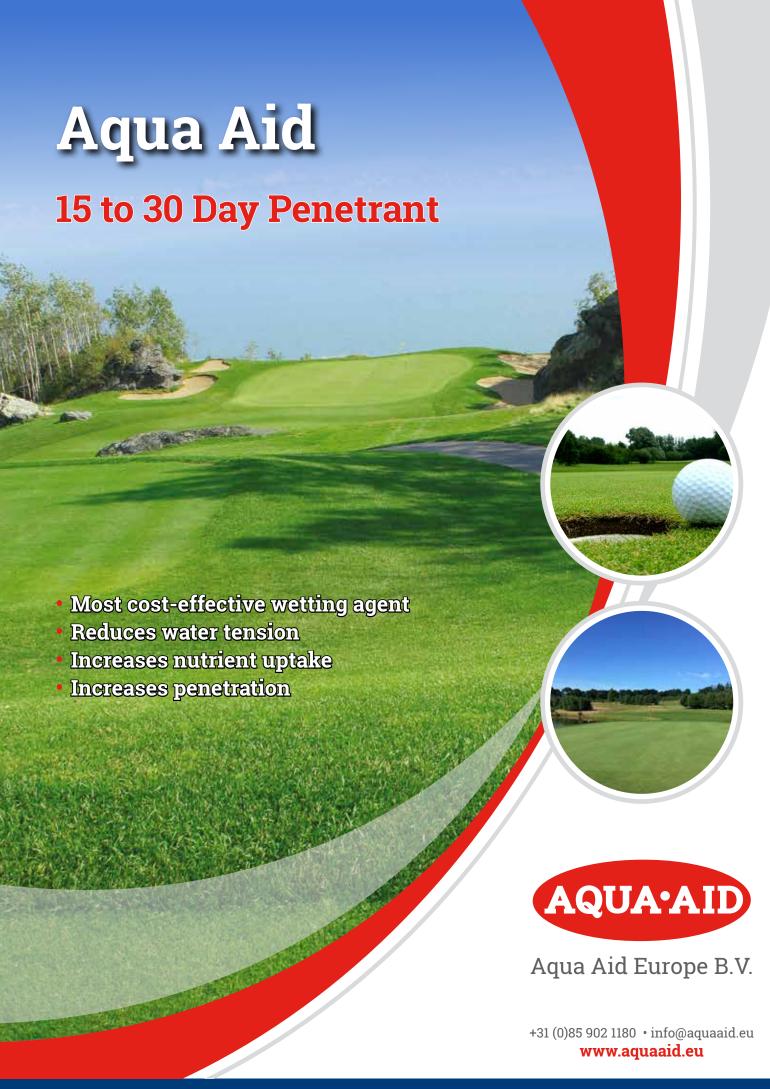
Available in packaging of 20L, 208L and 1000L Please check availability with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Active Ingredient:
Propoxylated polyethylene
qlycols.......99%



Aqua Aid

15 to 30 Day Penetrant

Aqua Aid Liquid Penetrant is formulated with the highest quality cosmetic grade non-ionic surfactants and wetting agents. This unique water base formulation of surfactants and wetting agents allows application any time of the year with no phytotoxicity. **Aqua Aid** Penetrant provides a uniform soil moisture profile by modifying the water surface tension. This can reduce the required amount of irrigation and rain water by as much as 30%. The end result is less hand watering, less maintenance expense and a healthier plant.

PRODUCT DETAILS

- Cost effective
- Reduces water tension
- Reduces water usage
- Increases nutrient uptake
- Increases water penetration
- Helps leach harmful salts
- Compatible with most tank sprays

DIRECTIONS FOR USE

Golf, Sports & Lawn Turf

For tank application, mix 6 - 13 L/Ha. Apply 2 applications the first month at at 15 day interval. Repeat with 6 - 13 L/Ha at 30 day intervals throughout the growing season.

For injection application, inject 3 - 10 L/Ha. Apply 2 applications the first month at 15 day intervals. Repeat with 3 - 5 L/Ha at 30 day intervals throughout the growing season.

Available in packaging of 20L and 208L Please check availabilty with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Non-ionic polyols	. 19%
Inert ingredients	81%

FWY-ISP Fairway injectable soil penetrant Biodegradable soil penetrant Designed specifically for injection Increases Nutrient efficiency AQUA'AID Aqua Aid Europe B.V. +31 (0)85 902 1180 · info@aquaaid.eu

www.aquaaid.eu

FWY-ISP

Fairway Injectable Soil Penetrant

FWY-ISP is a cost effective formulation of soil wetting agents designed to enhance the penetration and infiltration of applied water through irrigation systems. **FWY-ISP** is designed to treat water repellent areas and large brown out areas in fairways and/ or mounds, as well as, hard to drain areas. **FWY-ISP** can also be incorporated into nutrient mixes to allow for more efficient delivery of applied nutrients.

FWY-ISP is compatible with all conventional irrigation systems or conventional ground spray equipment and is effective in irrigation systems at concentrations as low as one part per 200,000. **FWY-ISP** is non-ionic, non-burning and non-toxic to all types of turf grasses.

PRODUCT DETAILS

- Increases soil moisture and softens seed cot for better germination
- Uniform moisture and nutrient coverage
- Increases water infiltration and penetration
- Increases nutrient efficiency
- Reduces run off and evaporation of applied water and nutrients

DIRECTIONS FOR USE

Golf, Sports & Lawn Turf

Irrigation Injection; apply 2,3 to 4,7 L/Ha through the irrigation system monthly or as needed. Fertigation Injection; mix proportionately to liquid nutrients to apply 2,3 to 4,7 L/Ha per month or as needed. Overseeding; apply 4,7 L/Ha one week prior to overseeding. Immediately follow overseeding with a second application at 4,7 L/Ha.

Available in packaging of 20L, 208L and 1000L Please check availability with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Active Ingredient:	
Non-ionic polyols	14%

the **PROPORTIONER SYSTEM**

A Simple, No Mixing Method of Applying Aqua-Aid Products



The PROportioner System is designed specifically for use on all types of turf, perennials, annuals, vegetables and ornamental plantings.

- **Golf Courses**
- Nurseries
- Greenhouses
- Hydro seeding
- Transplanting
- **Athletic Fields**
- Landscape Planting
- Cemeteries
- **Home Gardens**
- **Home Lawns**





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PROportioner system

A convenient system with no chemical mixing for utilizing Aqua Aid Products that is as easy as hand watering. Five Pellet formulations that are designed to make hand watering more effective and longer lasting. Aqua Aid Pellets are non-toxic to all types of turf, annuals, perennials or ornamental plants.



THE HYDRATING AND REWETTING PELLET

- 100% active ingredients
- Manages localized dry spots
- Reduces hand watering
- Long lasting soil penetrant
- Increases water retention
- · Provides uniform wetting

THE HUMIC ACID NUTRIENT CHELATION PELLET

- 100% active ingredients
- · Formulated with humic acid
- Chelates and translocates nutrients
- · High cation exchange capacity



THE LOCALIZED DRY SPOT / DRY PATCH PELLET

- 100% active ingredients
- Increases water infiltration
- Reduces hand watering
- Maximizes water availability
- · Manages the causes of water repellency and localized dry spots / dry patch



THE ROOT PRODUCING ENHANCED KELP PELLET

- 100% active ingredients Encourages maximum root growth
- Reduces hand watering
- Provides maximum root density
- Benefits of auxins & cytokinins
 Maximizes water availability



PELLET APPLICATOR



Specialty fertiliser

In the product category Specialty Fertiliser, Aqua-Aid offers two calcium products. **Verdecal** is a limestone product based on calciumcarbonate. **Verdecal G** is a calciumsulfate better known as gypsum.

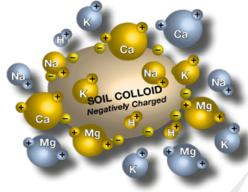
The soil colloid has degrees of affinity for various basic cations. This bonding increases with larger atomic weight, ion size and amount of charge. The percentage saturation for each of the cations will usually be within the following ranges for optimum performance.

Element	Ideal percentage
Calcium (Ca)	60 - 70 %
Magnesium (Mg)	10 - 18 %
Potassium (K)	3 - 6 %
Sodium (Na)	2 - 5 %
Hydrogen (H)	10 - 15 %

The process of cationic exchange begins when water and basic cations (Ca, Mg, K, Na) meet the soil colloid. Based on the soil colloid's degree of cation affinity, Calcium (Ca) will attach to the soil colloid releasing the smaller cations. The released cations (Mg++, Na+, K+, H+) are solubilized in the soil solution and made available to the plant or removed from the soil profile. As hydrogen is released from the soil colloid into the soil solution, acidity is reduced and pH is raised.

Exchangeable cations are those absorbed on the colloid. Water soluble cations are those ionized in the soil solution. CEC is determined by the number of negative sights on the colloids.

Both Verdecal products are specifically designed to have an impact on the CEC, both are able to correct the CEC to the appropriate



levels or to maintain the CEC on the correct levels. **Verdecal** and **Verdecal G** are capable of making the calcium readily available for the plant. Independent research has shown significant increases in the calcium levels in the soil and inside the plant. Results show an increase in the plant after just 9 days.

The reason the calcium in both Verdecal products is available this quick is the secret ingredient: thCa. This is a combination of plant extracts which are formed into trihydroxycarboxylic acid. This acid oxidizes the calcium molecules in the Verdecal in order to make it available to the plant and soil. The thCa also oxidizes currently unavailable Ca in the soil, therefore adjusting the CEC even more. The calcium will be available over a longer period of time.



The value of thCa

- Allows you to apply only 1/4 of the product compared to typical Gypsum or Limestone products.
- Makes Calcium available NOW, not 2 to 3 years from now.
- Goes into the soil to make bound-up, unavailable Calcium available to the plant.

The formulation of both **Verdecal G** and **Verdecal** have very high concentrations of readily available calcium. Due to the combination with the thCa and a low dose of a polyol wetting agent the application rate for the Verdecal products is very low compared to conventional calcium products. Conventional calcium products have application rates ranging from 1.000 to 2.000 kg per hectare.

The normal maintenance rate for Verdecal (G) is only 250 kg per hectare. If there is a need to correct the CEC or pH the Verdecal (G) is used at a 500 kg per hectare rate.

The composition of **Verdecal G** is 95 % calciumsulfate, regular **Verdecal** is 95 % calciumcarbonate. Both formulations also contain a 1 % Aqua-Aid polyol wetting agent. This wetting agent attributes to the high solubility of the product. After application the product needs an irrigation cycle, the Verdecal product will dissolve directly and become available for plant and soil.



Verdecal (G)



Classic calcium product

Independent research has shown the superior solubility of the Verdecal products in comparison with a regular greens grade calcium product.

Verdecal G and **Verdecal** are available in two granular sizes, greens grade SGN 85 and coarse grade SGN 185.



VerdeCal G

Gypsum enhanced with thCa™

Calcium Sulfate (gypsum) is combined with $thCa^{\mathsf{TM}}$, an organic complexing agent. $thCa^{\mathsf{TM}}$ makes the Calcium (Ca) in gypsum more readily available for soil or plant use without effecting or raising pH.

PRODUCT DETAILS

- 250 kg will yield results equivalent to 1000 kg of typical gypsum
- Leaches excessive amounts of Sodium (Na) and Magnesium (Mg) from soil colloids
- Supplies Calcium (Ca) without raising pH
- Helps loosen compacted, heavy clay soils
- Supplies plant available Sulfur (S) in teh sulfate form
- Improves soil aeration and water percolation
- Ideal for turf, shrubs and flowers
- Quicker response at lower rates. Requires 1/4th the rate of standard gypsum per application

DIRECTIONS FOR USE

For continued optimal growing conditions, apply **VerdeCal G** at 250 kg/Ha monthly through the growing season, or as needed. Soil test recommendations should be followed.

To correct high sodium or magnesium levels or to loosen clay soils, apply VerdeCal G at 5 kg per 100 m² or 500 kg/Ha once or twice per growing season, or as needed. To correct high sodium levels on Greens and Tees or when using effluent water, apply **VerdeCal G** at 500 kg/Ha every month during the growing season.

Available in grain size Greens (SGN 85) and Coarse (SGN185)

Available in bags of 23 kg and 455 kg

Please check availability with your distributor

COUNTRY OF ORIGIN: USA

Verde-cal G

COMPOSITION:



VerdeCal

Enhanced calcitic limestone

Calcitic limestone combined with thCa™, an organic complexing agent, converts insoluble calcium compounds to soluble and available calcium. This allows for greater delivery of calcium to the exchange sites on the soil colloid. **VerdeCal** contains Aqua-Aid penetrant which synergizes with thCa™, providing uniform nutrient movement into the entire soil profile.

PRODUCT DETAILS

- 250 kg will yield results equivalent to 1.000 kg of typical lime
- Reduces hydrogen, sodium and chlorine in the plant and soil
- Improves germination, stimulates root growth, and enhances micorbial activity
- Increases essential nutrient absorption and translocation
- Improves soil structure (flocculation, water infiltration)
- Supplies optimal calcium levels to plant cells to strengthen the plant's resistance to disease
- Balances the Ca/N ratio in the plant
- Quicker response at lower rates
- Requires 1/4 the rate of standard lime per application

DIRECTIONS FOR USE

To maintain optimum pH and growing conditions, apply **VerdeCal** at 250 kg/Ha at least twice per growing season or as needed. Soil test recommendations should be used to determine liming needs.

To adjust pH, apply **VerdeCal** at 500 kg/Ha. In most soils this will raise the soil pH up to one full point. Retest and if needed, reapply at the pH adjustment rate.

Available in granule size Greens (SGN 85) and Coarse (SGN185)

Available in bags of 23 kg and 455 kg

Please check availability with your distributor

COUNTRY OF ORIGIN: USA

VERDE-CAL

COMPOSITION:

Calcium Carbonate (CaCO3)	95,0%
Calcium (Ca)	
Magnesium(Mg)	0,6%

Biostimulants

Aqua-Aid offers a wide range of biostimulants and UV-B radiation protection products. All these products are based on natural ingredients and are safe to use on all professional turf types. All products are designed and manufactured to solve various issues occurring in the professional turf market. This will include improved growing conditions and protection against biotic- and abiotic stress. Next to this Aqua-Aid has developed two products in order to defend the turf grass against damaging UV-B radiation.

Wormpower is an enhanced vermicompost produced by red wiggler worms. The product is a clear liquid extract which contains over 1.400 different DNA profiles of latent state soil microbes.

Once these microbes are applied to the soil their activity will strengthen the soil surrounding the plant's root zone. The microbes also have a nutrient transportation function; the microbes will enter the meristem of the roots carrying nutrients for the plant. After leaving the nutrients behind, the microbes exit the plant via the hair roots.

Grass root

Microbes entering

This ongoing process has a positive effect on the soil and plant health. The positive effects of Wormpower include; increased root mass, thatch reduction, conversion of anaerobic soils, defensibility against phytium attacks and increased yields. All these claims on the beneficial effects of Wormpower have been independently researched.

Aqua-Grow is a non-phytotoxic plant based biostimulant, the plant extract is a Quillaja Saponin extract resourced in Chile. The combination of the Quillaja Saponin and a low NPK analysis promotes the overall growth of the crop and supports the propagation of beneficial micro-organisms. This existing soil life will give the plant and soil a better defense system against biotic attacks. A more vital plant has a better overall defense system.

Extensive field testing in various professional turf surfaces have shown the decrease of biotic attacks from severe attacks to hardly any attacks after just a few applications. The pitch quality in all these situations went up significantly.

Quillaja plant



BioFlav-X is developed and manufactured in order to control a large number of pests, pathogens, molds and viruses. The formula is developed not to kill the pests but to deter and discourage them from attacking the plant. The product is based on a citric acid extract, this is based on bioflavonoids, an ingredient which is also found in various Vitamine C supplements. These bioflavonoids will generate an increase in the plant immune system making the plant more defensible against various attacks.

Field trials have shown parasitic nematodes moving away from the plant's rhizosphere.

Promote has been developed after many years of in-depth research and consultation with both professional grounds staff and greenkeepers. As a result, we have produced a unique composition of natural plant extracts, denaturized extracts and specially selected organic compounds which has resulted in Promote.

The formulation contains high quality carbohydrates, L-amino acids, oligopeptides, polypeptides, alginates, mannitol, oligosaccharides and polysaccharides, yeast extract, natural organice acids and betaines. This diverse blend of high quality ingredients works by activating specific physiological processes within plants.

This results in the plant being far better equipped to withstand any attack and can use more energy on growing, developing a much denser sward, a significantly greater root mass and visibly higher chlorophyll levels.

Before using Promote



After using Promote



Biostimulants

Organo-T is a new generation of granular organic fertilizer which will act as a soil conditioner. The formulation has a low nutrient analysis made completely from tea seed meal and is designed to refine the soil in times of stress. The application times are end of the summer and during the autumn. Due to the low nutrient analysis the product can also be used during the winter period when the temperatures still allow the application. The benefits of Organo-T is the increase in resistance against seasonal stress and the improved consistency of the playing surface.

The product is suitable for all types of turf including golf greens, fairways and sports pitches. Organo-T is a micro granular product which will condition the playing surface for a longer period of time.

When there is high seasonal stress and the end-user desires an immediate effect, Aqua-Aid has developed a new product; **Organo-T Liquid**. The liquid product of Organo-T has a higher percentage of active tea seed meal. The combination of a liquid product with a higher percentage of active ingredients results in a direct conditioning of the soil.

Aqua-Sil is a fermented Silicon product developed by Aqua-Aid. Recent research evidence has proven that systematic applications of silicon-based products on turf grass have a beneficial contribution to grass growth and development. Especially during periods of stress or unfavorable growing conditions. Silicon is one of the most abundant mineral elements in the soil. Although there are high levels of silicon in the soil, the plant is unable to extract the silicon because it is highly insoluble. Silicon is most readily absorbed by plants as a orthosilic acid (H4SiO4). The silicon source of Aqua-Sil consists of orthosilic acid in a fermented form. The formulation contains 2% silicon, a high percentage for a very insoluble element.

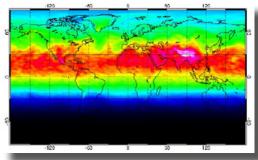
The plant will absorb the silicon from the applied Aqua-Sil, the accumulation of silicon in epidermal cells and cell walls result in the development of more erect leaf blades and a thicker, stronger cuticle layer which limits transpiration and water loss. Due to this increase in leaf strength an increase in traffic tolerance has been observed in different trials.

Aqua-Sil has a beneficial effect on the suppression of pathogen infections, the silicon creates a physical barrier that reduces the ability of fungal hyphae to penetrate into the leaf tissue.

Aqua-Aid offers two different UV-B radiation protection products, **Turfscreen** and **Solar**.

Turfscreen is a blend of Titanium dioxide and Zinc oxide, these are both natural elements and are very common in sunscreens used on skin, therefore the products are harmless. Next to these elements Turfscreen also contains a light colourant, this will give the turf grass a direct green up, without looking artificial.

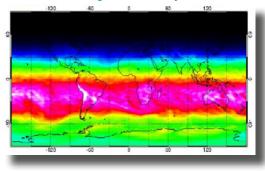
Northern hemisphere July 6th 2019



The effect of Turfscreen on professional turf grass is that all damaging ultraviolet and visible wavelengths will be filtered and absorbed out. The grass will be protected from harmfull UV-B and solar radiation.

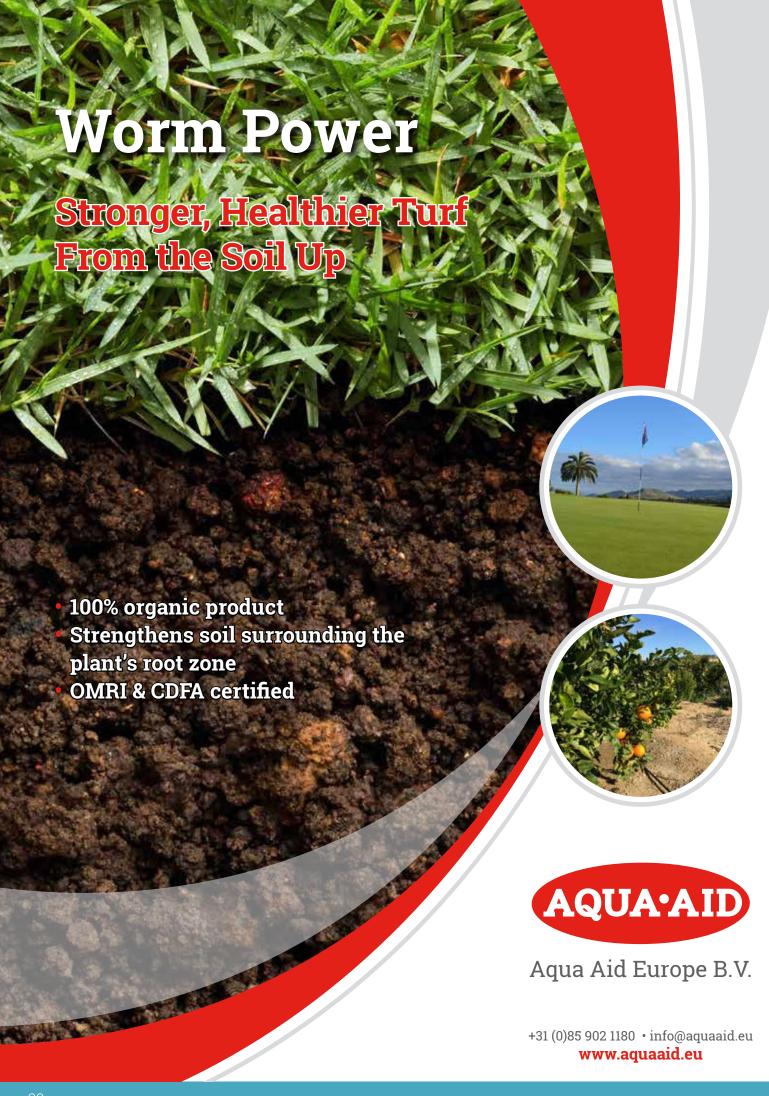
Another benefit of turfscreen is the fact the plant will transpire less, therefore reducing the amount of water used.

Southern hemisphere January 6th 2019



UV-B radiation is a damaging factor which is present everywhere in the world. These pictures show the UV-B radiation on two random dates during the summer and winter. Aqua-Aid advices to use these kinds of datasets in order to determine the application rate of both UV-B

Solar is the latest UV-B protection product from Aqua-Aid. This product is solely based on a high level of natural titanium dioxide at 30%. Providing complete protection from harmfull radiation such as UV-B and infrared. Solar complies with all current and near future regulations and is completely MRL free.



Worm Power

Stronger, healthier turf from the soil up

Worm Power is an Organic Liquid Extract of 100% organic castings and worm-worked material that strengthens the chemical, physical and biological aspects of the soil around the plant's root zone. OMRI listed and CDFA certified, **Worm Power** improves soil health and the plant's health, vigor and strength. While turf practices and seasonal variables always vary, healthy soil is a universally vital element for healthy plants.

Through ten years of trials and research with top leading university's, **Worm Power** has consistently been shown to produce stronger, healthier, more vigorous plants and produce better crops with higher yields.

PRODUCT DETAILS

- Provides viable macro and micro-nutrients
- Increases water holding capacity of the soil
- Makes nutrient delivery more efficient over extended period
- Introduces an active microbial community to the soil
- Increases size, quality and yield

DIRECTIONS FOR USE

Turf Application; apply as a soil spray at 25 L/Ha at 15 day intervals or 50 L/Ha at 30 day intervals. For best results, **Worm Power** requires season long application programmes.

In Soilless Media; apply 13,5 ml per L of growing container size every week throughout the growing season.

In Mineral Soil Media; apply 8 ml per L of growing container size every week throughout the growing season. If plantings are in the ground, estimate the volume size of the root ball in liters and apply accordingly.

Available in packaging of 20L, 208L and 1000L Please check availability with your distributor

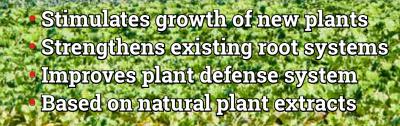


COMPOSITION:

Total Nitrogen (N)	0,002%
Available Phosphate (P2O5)	0,001%
Soluble Potash (K2O)	0,024%
Calcium	0,003%
Magnesium (Mg)	0,001%
Sulfur (S)	0,003%

AQUA-GROW

For a stronger root system and plant-vitality





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AQUA-GROW

For a stronger root system and plant-vitality

AQUA-GROW is a liquid, non-phytotoxic product based on natural plant extracts that stimulates growth of new plant roots and strengthens the existing root system. **AQUA-GROW** consists of 100% natural plant-feeding substances and promotes the overall growth of the crop and supports the propagation of beneficial micro-organisms. **AQUA-GROW** ensures a more vital crop and improved soil life. A more vital plant has a better overall defense system.

PRODUCT DETAILS

- Stimulates root mass development
- Improves soil microbial life
- Improves plant defense system
- Delays formation of resistant strains
- Beneficial throughout complete vegetative cycle
- Environmental friendly
- Improves qualitative and quantitative production characteristics

DIRECTIONS FOR USE

Total 20 - 60 L/Ha, evenly distributed. Distributed over multiple irrigation cycles. (e.g. Ltr 20 + 20 + 20 / Ha)

> Available in packaging of 10L Please check availability with your distributor

COUNTRY OF ORIGIN: The Netherlands



COMPOSITION:

Total Nitrogen (N)	1%
Available Phosphate (P2O5)	
Soluble Potash (K2O)	
Magnesium (Mg)	0,4%

BioFlav-X

New generation of plant biostimulants

- Stimulates growth of new plants
- Alleviates symptoms of stress
- Improves plant defense system
- Biological alternative for flower bulb dipping
- Stimulates beneficial nematodes



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BioFlav-X

A natural solution to both abiotic and biotic attack

BioFlav-X is a liquid composition that boosts a plant's own defense system and alleviates the symptoms of stress and damage caused by an attack. The formula is centered around a citrus acid extract. This extract has been shown to be highly effective in the control of a large number of pests, pathogens, moulds and viruses.

BioFlav-X is not designed to kill the pests but to deter and discourage them from attacking the plant. Field trials have shown parasitic nematodes moving away from the plant's rhizosphere.

PRODUCT DETAILS

- Improves plants natural defense system
- Alleviates symptoms of stress and damage caused by an attack
- Does not kill but deters and discourages pests
- Environmental friendly
- Stimulates plant growth, health and productivity

DIRECTIONS FOR USE

Min 2 Ltr/Ha at weekly intervals. Can be used as plant and soil bio stimulant; Wash in soil applications with 2-5 MM irrigation direct after application (depending on soil type).

Flower bulb dipping in combination with 50% classic chemicals has shown effective results; for detailed application advise, please contact your distributor.

Available in packages of 1L and 10L Please check availability with your distributor

COUNTRY OF ORIGIN: Ireland

Bi₆Flav-X

COMPOSITION:

PROMOTE Activate your plants defense system **Activates specific physiological** processes within plants Massively boosts the plants immune system **AQUA'AID** Aqua Aid Europe B.V. +31 (0)85 902 1180 · info@aquaaid.eu www.aquaaid.eu

PROMOTE

Activate your plants defense system

Promote is a unique composition of natural plant extracts, denaturised extracts and specially selected organic compounds, designed to trigger the plants own defense mechanism by using natural plant hormones and denaturised extracts. The components 'trick' the plant into thinking it is under both biotic and abiotic attack and needs to use the ingredients within **Promote** to massively boost its own immune system. As a result, the plant is far better equipped to withstand any attack and can spend more energy on growing, developing a much denser sward, a significantly greater root mass and visibly higher chlorophyll levels, resulting in a synergistic effect.

PRODUCT DETAILS

- Improves plants natural defense system
- Increases mineral uptake from the soil and into the plant
- Relieves stress in plants caused by extreme weather conditions, pests and diseases
- Increased root mass development
- · Increased turf density and quality
- Provides great results in horticulture

DIRECTIONS FOR USE

20 L/Ha in 300 - 600 L of water every 2 weeks for the first 3 treatments, followed by 20 L/Ha every 3 weeks.

Available in packages of 10L, 208L en 1000L Please check availability with your distributor

COUNTRY OF ORIGIN: Ireland

Promote™

COMPOSITION:

Organic matter	48,3%
Carbogydrate	10%
Cold pressed seaweed	
Nitrogen	. 4,74%
Phosphorus	0,07%



Organo-T

Organic fertilizer derived from tea seed meal

Organo-T is a special mini granule grade soil conditioner with a low nutrient analysis, made from plant extract designed to refine the soil. **Organo-T** is suitable for all turfgrass areas maintained at heights greater than 6mm. It can be used all year round, but for best results **Organo-T** should be applied before rainfall or watered in after application.

PRODUCT DETAILS

- Improves root mass and increases nutrient uptake
- Increases plant tolerance to stress conditions
- Encourages faster grow-in and establishment of new grass seedlings
- Maintains plant count entering into a dormant period
- Acts as a bio stimulant, which will enhance microbial activity
- Can by applied to all types of turf with mowing height greater than 6 mm
- Suitable for all types of soil

DIRECTIONS FOR USE

300 - 400 kg/Ha, evenly applied over the turf. For best results, apply before rainfall or water it in with 12 - 15 mm of water.

Available in packages of 20kg and 500kg Please check availability with your distributor

COUNTRY OF ORIGIN: Ireland

Organo-T

COMPOSITION:

Contains Tea Seed Saponins



Organo-T Liquid

Organic liquid fertilizer derived from tea seed meal

Organo-T Liquid is a special liquid soil conditioner with a low nutrient analysis, made from plant extracts designed to refine the soil. **Organo-T Liquid** is suitable for all turfgrass areas. It can be used all year round, but for best results **Organo-T Liquid** should be applied before rainfall or watered in after application.

PRODUCT DETAILS

- · Improves root mass and increases nutrient uptake
- Increases plant tolerance to stress conditions
- Encourages faster grow-in and establishment of new grass seedlings
- Maintains plant count entering into a dormant period
- Acts as a bio stimulant, which will enhance microbial activity
- Can by applied to all types of turf
- Suitable for all types of soil

DIRECTIONS FOR USE

100 L/Ha, evenly applied over the turf. For best results, apply before rainfall or water it in with a minimum of 10 mm of water. Optimum results have been achieved when the soil is already saturated.

Available in packages of 20 L, 200 L and 1.000 L. Please check availability with your distributor

COUNTRY OF ORIGIN: Belgium

Organo-T

COMPOSITION:

Contains Tea Seed Saponins

AQUA-Sil Increase defensibility of plant and soil Increases quality of both plant and soil Increases stress resistance Boosts the crops yield Naturally fermented product **AQUA'AID** Aqua Aid Europe B.V. +31 (0)85 902 1180 · info@aquaaid.eu www.aquaaid.eu

AQUA-Sil

Increase defensibility of plant and soil

Silicon is an indispensable element in many biological processes. By using Silicon as a fertilizer, the quality of both the plant and the soil improves. **AQUA-Sil** is a fermented product which naturally releases (Ortho) Silicon, amongst natural and plant benefitial elements. These elements are readily absorbable for the plant because of active micro-organisms, this will strengthen both the soil and the plants health. A healthier plant has a higher resistance to physical stress, which increases the plants' productivity. Research has shown that when applying **AQUA-Sil**, the plant needs less water and is stronger. Analysis after application of **AQUA-Sil** also show an increase of chlorophyll in the plant.

PRODUCT DETAILS

- Increased quality of both soil and plant
- Increased resilience to physical stress
- Higher plant yield
- Increased nutrient uptake
- Reduced water use
- Increased level of chlorophyll production

DIRECTIONS FOR USE

Apply **AQUA-Sil** at 0,3 - 1L/Ha per week.

Available in packaging of 1L and 5L Please check availability with your distributor

COUNTRY OF ORIGIN: The Netherlands

COMPOSITION:



Turf Screen

Enhanced Solar Protection

Turf Screen is a revolutionary product engineered, tested and proven to protect turf from damaging ultraviolet rays and is effective at reducing sunburn and solar stress. Formulated with Enhanced Solar Protection, **Turf Screen** contains the only all-natural ingredients approved by the US Food and Drug Administration (FDA) for use in preventing sunburn. **Turf Screen** allows filtered light to reach the plant, allowing necessary functions to proceed unaffected and conserve water. **Turf Screen** is 100% safe on turf, 100% safe for the environment and independently verified to improve turf quality – especially during the most extreme summer conditions.

PRODUCT DETAILS

- Complete UVB and solar protection
- Improves turf quality
- Improves turf density
- Reduces water usage
- · Reduces turf stress and wilt
- Improves secondary Pathogen resistance
- Improves photosynthesis via UVB reduction
- Unique mode of action

DIRECTIONS FOR USE

For weekly maintenance, apply 2,5 - 5 L/Ha. For application every 14 days, apply 4 - 8 L/Ha. For Tees, apply 3,25 - 4 L/Ha every 14 days. For rough, apply 1,5 - 3,25 L / Ha. Use a minimum of 470 L/Ha of water.

Available in packaging of 10L Please check availability with your distributor

COUNTRY OF ORIGIN: USA



COMPOSITION:

Titanium Dioxide	30,12%
Zinc Oxide	9,04%
Inert ingredients	60.84%



SOLAR

Sun protection for plants

SOLAR is a 100% natural product based on a blend of Titanium Dioxide and plant feeding extracts. **SOLAR** reduces the impact damage of extreme UV and infrared sunlight during summer heat conditions. **SOLAR** balances moisture behavior within the plant and increases stress tolerance. Titanium Dioxide is a natural product that scatters sunlight but allows enough light for the plant to grow of sunlight. **SOLAR** is MRL free and protects the plant against cell wall deformation. **SOLAR** reduces plant stress during summer conditions and reduces water consumption up to 30%. Leaving no residue, **SOLAR** is 100% safe for the environment.

PRODUCT DETAILS

- Filters harmful UV and infrared light
- · Reduces organic pollution on the leaf
- Leaves enough useful light for the plant
- Forms a protection shield that offers resistance and promotes growth
- Mechanical resistance to pollution

DIRECTIONS FOR USE

Depending on crop / total leaf surface; for example on Turf: <u>Greens</u>: 1L/Ha Weekly or Tees: Fairways 2 L/Ha Biweekly <u>Flowers/potatoes/bulbs</u>: 1 - 2,5 L/Ha weekly during the growing season depending on leaf surface development and solar stress.

Available in packages of 10L Please check availability with your distributor

COUNTRY OF ORIGIN: The Netherlands



COMPOSITION:

Total Nitrogen (N)	1,1
Available Phosphate (P2O5)	
Soluble Potash (K2O)	2,0
Magnesium (Mg)	0,3

Content Titanmium Dioxide......30%

Tools

Aqua-Aid is an official dealer of the Spectrum Technologies Fieldscout soil moisture meters. Responsible irrigation management and reducing water costs is possible by using the Fieldscout Soil Moisture Meter technology. The TDR-technology has proven itself for over 30 years as a very accurate meter for soil moisture measurements in a lot of soil types.

There are two meters available, the **TDR-150** and the **TDR-350**.

After years of loyal service the FieldScout TDR-100 Soil Moisture Meter has been succeeded by the FieldScout **TDR-150** Soil Moisture Meter. Without compromising the reliability, the new moisture meter has been improved in terms of performance and accuracy. Next to that the meter gained several new functionalities.

The **TDR-150** meter measures the exact volumetric water content (VWC) in a percentage. Next to the VWC the **TDR-150** meter also measures the electroconductivity (EC) of the soil in mS/cm.

The **TDR-150** can measure the VWC on several depths, in order to do this several measuring rods are available. The end-user can choose the depth according to the measuring needs. The following lengths are available: 3,8 cm, 7,5 cm, 12 cm and 20 cm.

It is possible to equip the meter with a GPS and Bluetooth application. This way you can link the soil measurements to GPS coordinates. With the Bluetooth function it is very easy to link the meter to every smartphone. In combination with the FieldScout Mobile App the measurements will be made visible in a colorful way.

The **TDR-350** is an improved version and successor of the praised TDR-300. The **TDR-350** can easily be used anywhere in the field. Just simply put the measuring rods of the meter in the soil and read the soil moisture content on the screen

The **TDR-350** is standard equipped with GPS and Bluetooth. This way you can link the soil measurements to GPS coordinates.



The **Hahn Spray Bug**, a walking spray system which combines precision application with ease of use and simple calibration. It allows you to spray your greens more accurately while keeping vehicles off tender turf. The system's nozzles are visible to the user during spraying, and the boom shroud eliminates drift while putting your spray material precisely where you want it. The Spray Bug is now wider, faster, comes with a larger tank, and is an effective method for micro-dosing nutrients.

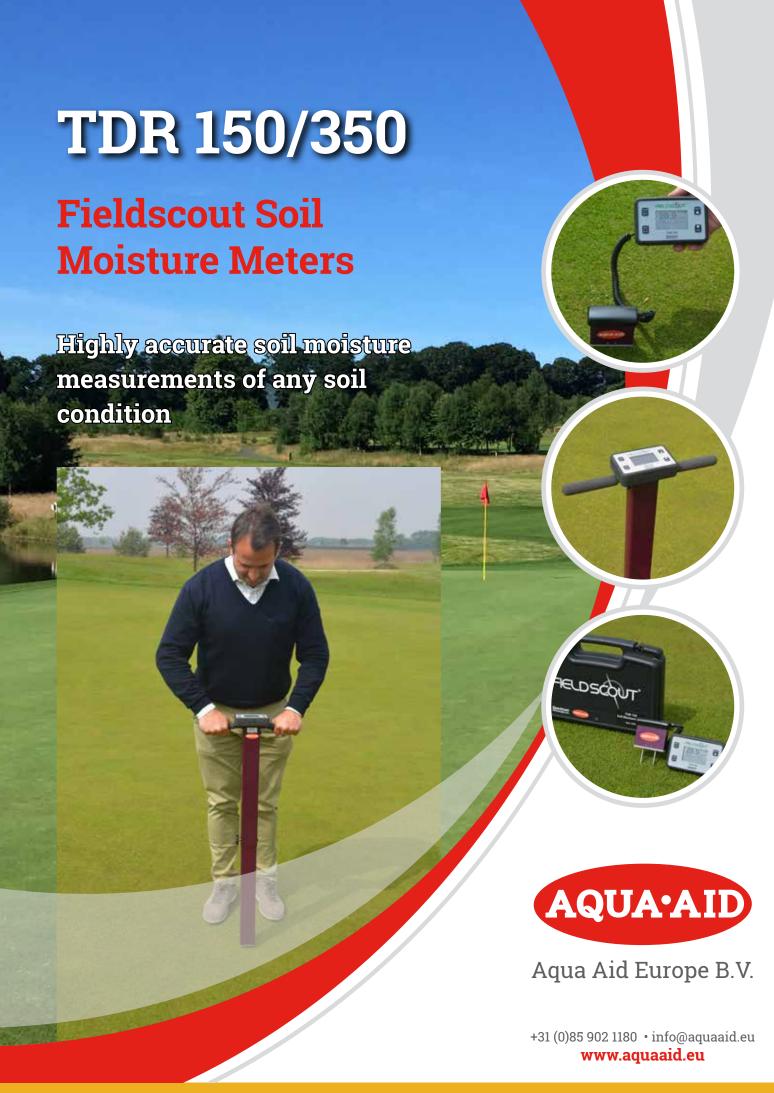
Designed from the ground up to be compact, lightweight and gentle on turf but also rugged enough for commercial service. Wide slick soft rubber tires minimize turf marking. The Spray Bug also has a compact and efficient electric drivetrain and chassis design which eliminates all unnecessary weight. Turf friendly and provides maximum performance and productivity.



The spray process with the Spray Bug is better for operators and better for turf. Designed with a focus on reducing operator exposure to the spray and preventing tracking through spray. Because the Spray Bug is self propelled, the operator walks in front of the spray pattern and is not forced to walk through the spray as with other walk spray systems. Also, since the tires are

not tracking through the spray, a more precise and controlled spray process is possible.

An optional custom integrated foam marking system is available for the Spray Bug system. The foam marking system was designed in response to customer requests for a system to provide optimum performance for walk spraying applications. The foam marking system is light, easy to set up and simple to adjust. Capacity is adequate to complete most spray jobs without the need to re-fill the tank.





TDR 150/350

Fieldscout Soil Moisture Meters

The Fieldscout **TDR 150/350** is a soil moisture meter that takes soil moisture readings at the press of a button. With variable rod length options, you can measure soil moisture at your ideal root zone. The Fieldscout **TDR 150/350** is the expanded and completely updated version of the **TDR 100/300**, it combines a compact display with an advanced soil moisture probe that is connected to each other via a 1.5 meter long cable. The **TDR 150/350** is made for convenient carrying. With new enhancements, the **TDR 150/350** provides significant improvements in performance and measurement accuracy for optimal soil conditions.

The meters can be used in various applications, such as on sports fields and golf courses, horticulture, container and open ground areas, road construction and in public green areas.

PRODUCT DETAILS:

- Increased accuracy of soil moisture (Volumetric Water Content)
- Measures EC (Electrical Conductivity)
- Measures Turf Surface Temperature
- Integrated Bluetooth and GPS (optional on TDR 150)
- Data logger records approximately 50,000 measurements
- Industry exclusive backlit display
- · Data collected with USB flash drive
- No PC interface needed
- · Powered by AA lithium batteries
- Compatible with SpecConnect and FieldScout App
- SpecConnect Fieldscout Pro subscription: Optional
- Optional IR Temp sensor to measure turf canopy temperature (on TRD 350 only)
- Improved shaft-mounted probe with telescoping tubular frame (on TDR 350 only)

The measuring probes of 3,8cm, 7,5cm, 12cm or 20cm are not supplied as standard, and need to be ordered separately.



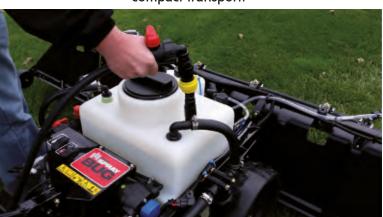


Ease of Use

The Spray Bug operates at a consistent 4,2 km per hour with a cruise control that maintains that speed over rolling terrain for accurate calibration. Turning is easy and adjustable stops can be set to help in lining up for the next pass. A trailer is available for transportation around the golf course.



The outer wings and the handle fold up for compact transport.



A dry lock fitting allows the operator to recharge the tank without exposure to the spray material.



Convenient power drive switch and spray control switch are located at the operator's fingertips.



Calibration is easy by adjusting the pressure bypass valve.



New! A custom foam marking kit is available to accurately line-up for each pass and helps to assure accurate overlap.



The Spray Bug can be operated in both directions with a flip of a switch.



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