

MOISTURE MANAGEMENT SOLUTION

OARS HS

Hydrating Surfactant with Organic Acid Redistribution System

OARS HS, Soil Hydrating Surfactant, is a combination of the university researched, field proven, and patented organic acid redistribution system (OARS) with a multi-branched hydrating chemistry. **OARS HS** controls soil water repellency while providing uniform soil moisture and increased soil moisture retention.

- Removes humic coatings from hydrophobic soil particles
- Controls water repellency
- Increases number of hydrating sites to improve moisture retention
- Provides superior soil moisture uniformity
- Increased length of activity in soil
- Reduces drought stress
- Consistent performance between applications to maintain adequate moisture in hard to wet soils
- Money back guarantee

Golf, Lawns, and Sports Turf

Apply 130 to 160 ml in 8 L of water per 100 m² (4 to 5 ounces in 2 US gallons per 1,000 ft²) at 30 day intervals or as needed. After an initial 160 ml (5 ounce) application, drought conditions can be best managed by applying 60 to 80 ml in 8 L of water per 100 m² (2 to 2.5 ounces in 2 US gallons per 1,000 ft²) at 15 day intervals or as needed.



LIQUID

For extreme drought conditions with high temperatures and/or increased soil water repellency, apply 200 to 250 ml in 8 L of water per 100 m² (6 to 8 ounces in 2 US gallons per 1,000 ft²) at 30 day intervals or as needed.

Irrigate with sufficient water to deliver **OARS HS** to the soil profile - 3 mm (1/8 inch) or more recommended.



RESEARCH

Evaluation of two commercially available wetting agents on soil moisture management

Evaluation Time Frame: April 15, 2017 to July 14, 2017, 91 Days

Location: Penn State University, Berks Campus Agricultural Research Center

Treatments:

Trials were conducted on potted containers with a soil consistency of 70% sand and 30% soil planted with L-93 creeping bentgrass. Applications were made at label recommendations. Two applications of OARS HS regenerating multi-branched surfactant were made at 160 ml per 100 square meters. Two applications of an industry leading modified/methyl-capped block copolymer surfactant were made at 190 ml per 100 square meters.

Evaluation:

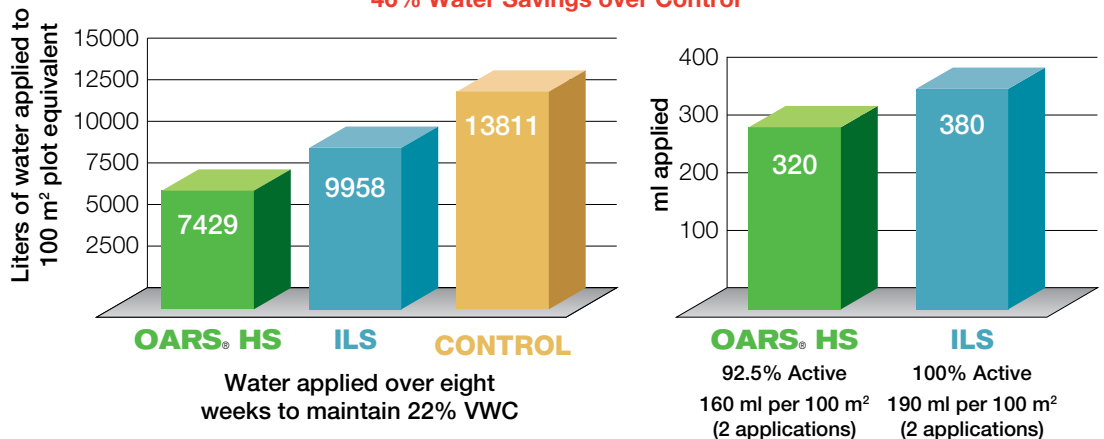
Evaluation of OARS HS regenerating multi-branched surfactant and an industry leading modified/methyl-capped block copolymer surfactant on soil moisture management of L-93 creeping bentgrass grown in a 70/30 sand to soil mix in potted containers. Target moisture level was 22% Volumetric Water Content (VWC). Rewetting of the matrix occurred once 15% VWC was measured. Both measurements were completed using a Spectrum TDR 300 Moisture Meter. The dry down was initiated on May 19, 2017.

Conclusion:

OARS HS pots required 46% less water than the control pots maintained at 22% VWC. 46% less water is equivalent to 6,382,903 liters saved for 10 hectares of fairways in an 8 week period. OARS HS outperformed the industry leading surfactant by saving 25% more water and required less watering cycles than the control.

Effect of OARS HS on Soil Volumetric Water Content (VWC) versus an Industry Leading Surfactant (ILS)

25% Water Savings over ILS with 16% Less Applied Product
46% Water Savings over Control



* Trials performed by Penn State University in 2017