



AQUA-AID Product	Application Rate (per 1,000 ft <sup>2</sup> )	Application Rate (per acre)	Frequency of Application	Water Requirements (per 1,000 ft <sup>2</sup> )	Cost (per acre)
<b>Aqua-Aid®</b>	2-4 ounces, repeat with 2 ounces Granular: 3 lb Pellet: when hand watering	1-4 quarts, repeat with 1-2 quarts	Two applications 15 days apart Then apply 2-4 ounces monthly Granular: every 30 days	1-2 gallons	
<b>FWY-ISP™</b>	2 ounces	1-2 quarts	Monthly, or as needed throughout growing season	Injected	
<b>Aquifer®</b>	4-6 ounces Granular: 2-3 lb Pellet: when hand watering	4-6 quarts	Every 30-45 days Granular: every 30 days	2 gallons	
<b>Conduit 90®</b>	(2) 8 ounces Granular: 3.25 lb	2.75 gallons	Two applications 10-14 days apart Granular: Two applications 7-10 days apart Repeat every 90 days	2.5 gallons	
<b>PBS150®</b>	(2) 5-8 ounces Granular: 4 lb	2.75 gallons	Two Applications 10-14 days apart Granular: Two applications 7-10 days apart Repeat every 120 Days	2-2.5 gallons	
<b>OARS®</b>	6 ounces Granular: 3.75 lb Pellet: when hand watering	2 gallons	Every 30 days Granular: every 30 days	2 gallons	
<b>AQM®</b>	3 ounces Pellet: when hand watering	1 gallon	Every 30 days	2 gallons	
<b>Recover™</b>	5-8 ounces Granular: 2.5-3.75 lb	1.75-2.75 gallons	Liquid and Granular: Weekly basis until conditions improve, then apply as needed	1 gallon	

## THE FACTS TO KNOW

- Hydrate early before water repellency and LDS conditions are apparent.
- Roots intercept water, water does not intercept roots.
- Roots are passive and need a hydrated, nutrient rich environment to grow in.
- Water repellency is progressive by nature and will reappear and increase. Begin treatment immediately with **OARS**.
- Use the recommended amount of water when applying any surfactant and avoid applying maximum rates on windy, low humidity, or high sky days.
- Choose a surfactant designed for your soil texture, water requirements, available labor, course budget and member's expectations.
- The **DIAL-IN™** approach may be required in shallow root conditions when using **OARS** to manage chronic LDS.
- Use **Aquifer**, **Conduit 90** or **PBS150** to hydrate the soil for guaranteed longevity.
- Use a penetrant such as **Aqua-Aid** to move the water and dry the surface.
- When roots are short in any type of soil, use the **DIAL-IN™** approach rather than a penetrant only.
- Use **AQM**, with cytokinins and auxins, to feed microbes, grow roots and repair damaged turf.
- Contact **AQUA-AID** (1-800-394-1551) or your local sales representative with application questions and/or recommendations.



5484 S. Old Carriage Road, Rocky Mount, NC 27803 • 800-394-1551 • 252-937-4107 • www.aquaaid.com

OARS and PBS150 are patented chemistries. Aqua-Aid is a registered trademark of AQUA-AID, INC., FWY-ISP is a trademark of AQUA-AID, INC., Aquifer is a registered trademark of AQUA-AID, INC., Conduit 90 is a registered trademark of AQUA-AID, INC., OARS is a registered trademark of AQUA-AID, INC., PBS150 is a registered trademark of AQUA-AID, INC., Recover is a trademark of AQUA-AID, INC., AQM is a registered trademark of AQM, Inc.

# Surfactant Guide

Determine the Proper Surfactant for Desired Penetration and Hydration of the Turf Rootzone



**DIAL-IN™** to determine the proper surfactant and/or combination of surfactants to apply when managing water repellency and LDS for your local conditions and soils.



800-394-1551  
www.aquaaid.com



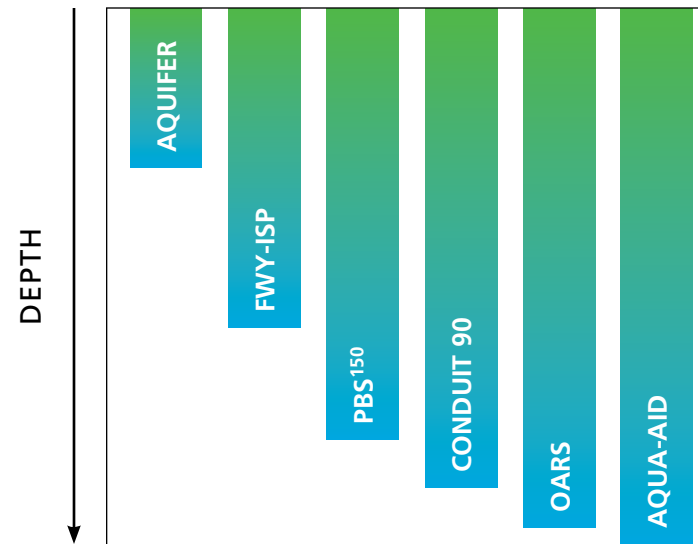
# The Choice is Yours

AQUA-AID offers several approaches for managing water penetration, repellency and hydration.

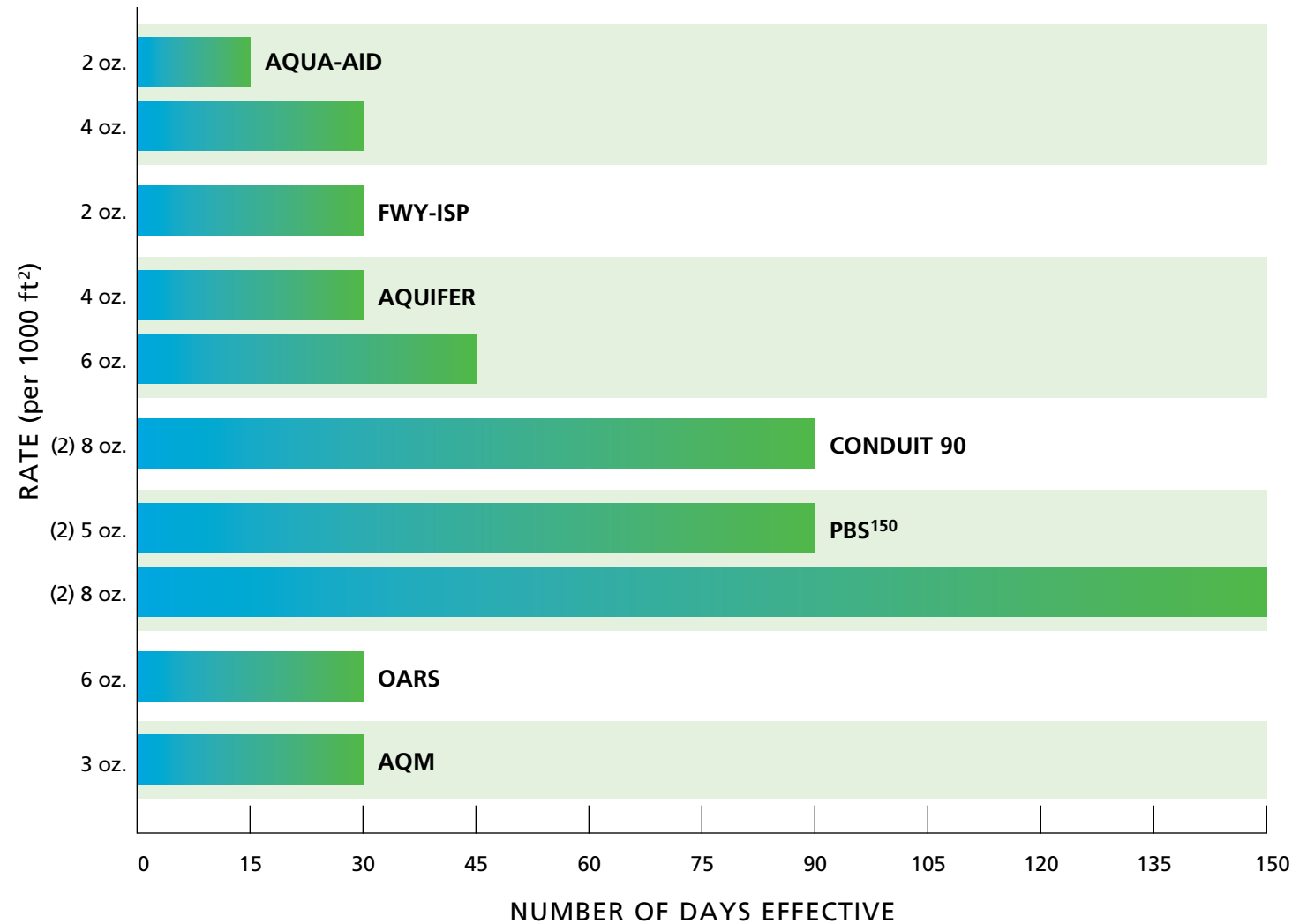
- Apply **Aqua-Aid** or inject **FWY-ISP** to **PENETRATE** and move water through the profile for tight and heavy soils.
- Apply **Aquifer** for **HYDRATION** in all types of soils.
- Apply **Conduit 90** or **PBS<sup>150</sup>** soil surfactant for **SUSTAINED HYDRATION** in all types of soils.
- Apply **OARS** as a **CORRECTIVE APPROACH** for water repellency.

All **AQUA-AID** surfactant chemistries can be applied with no burn at recommended rates with predictable longevity. Choose a surfactant for your soil texture, water requirements, available labor and member's expectations.

## Penetration into the Root Zone



## Longevity in the Root Zone



PENETRATE		Application Rate (per 1,000 ft <sup>2</sup> )	Days Active	Greens and Tees	Fairways	General Turf	Mounds and Hills	Bunker Faces	Heavy Soils	Light Soils	Chronic LDS
	Aqua-Aid Penetrant is a wetting agent formulated to uniformly disperse water throughout the soil profile. Applied every 2 to 4 weeks as a treatment for LDS conditions, Aqua-Aid is the most cost effective product on the market.	2 ounces	15 days	Good	Good				Good	Dial-In with Aquifer	
		4 ounces	30 days	Best	Best	Best			Best	Dial-In with Aquifer	
	<b>FWY-ISP</b> : a fairway injectable soil penetrant designed for treating water repellent areas, large brown out areas in fairways and/or mounds, as well as hard to drain areas. <b>FWY-ISP</b> provides superior water infiltration and penetration.	2 ounces	30 days or as needed		Good	Good	Good		Good		
HYDRATE		Application Rate (per 1,000 ft <sup>2</sup> )	Days Active	Greens and Tees	Fairways	General Turf	Mounds and Hills	Bunker Faces	Heavy Soils	Light Soils	Chronic LDS
	Aquifer provides a 30 to 45 day preventive program for managing water repellency and LDS conditions. It provides uniform downward and lateral water movement in the top several inches.	4 ounces	30 days	Best	Good	Good			Dial-In with Aqua•Aid	Good	Dial-In with OARS
		6 ounces	45 days	Good	Good	Best	Good	Good		Best	Dial-In with OARS
	Conduit 90 provides a 90 day preventative program for managing water repellency and LDS conditions. Conduit 90 works 24/7 in either drought conditions or periods of excess rain to provide a uniform pattern of hydration throughout the entire root zone.	(2) 8 ounces	90 days	Good	Best	Best	Best	Best	Best	Best	Dial-In with OARS
	<b>PBS<sup>150</sup></b> is a 90 to 150 day preventative program for managing water repellency and LDS conditions. <b>PBS<sup>150</sup></b> is a polyfunctional branched surfactant that will work in either drought conditions or periods of excess rain to provide a uniform pattern of hydration throughout the entire root zone. <b>PBS<sup>150</sup></b> offers the choice of longer activity with less applied product.	(2) 5–8 ounces	Up to 150 Days		Good	Best	Best	Best	Good	Best	
CORRECT		Application Rate (per 1,000 ft <sup>2</sup> )	Days Active	Greens and Tees	Fairways	General Turf	Mounds and Hills	Bunker Faces	Heavy Soils	Light Soils	Chronic LDS
	<b>OARS</b> is the corrective approach to water repellency. OARS hydrates the soil and removes the build-up of organic acids that coats the surface of sand particles which is the cause of water repellency and LDS.	6 ounces	30 days	Corrects	Corrects	Corrects	Corrects	Corrects	Corrects	Corrects	Corrects
REPAIR AND ROOT		Application Rate (per 1,000 ft <sup>2</sup> )	Days Active	Greens and Tees	Fairways	General Turf	Mounds and Hills	Bunker Faces	Heavy Soils	Light Soils	Chronic LDS
	<b>AQM</b> is a "Balanced for Performance" product that contains the proper ratios of cytokinins and auxins especially beneficial to root establishment, development, and growth. <b>AQM</b> is formulated with a surfactant to relieve water deficit stress and improve transpiration capabilities of turf.	3 ounces	30 days	Best	Best	Best	Best	Best	Best	Best	Dial-In with OARS
	<b>Recover</b> treatment soil surfactant is formulated to help turf recover from localized dry spot conditions and improve water penetration in the soil profile.	5–8 ounces	7–15 days	Best	Best	Best	Good	Good	Best	Good	Good