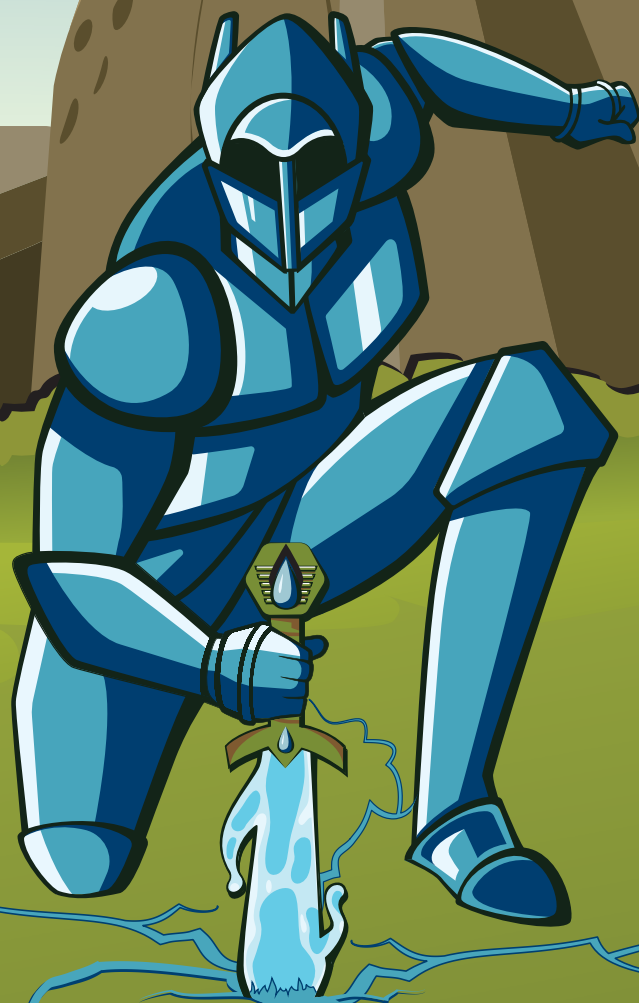


NEXT GENERATION • POTENTIATED RESEARCH BACKED

Excalibur™ is a next generation rapid response soil surfactant that delivers rapid infiltration and consistent dry-down. **Excalibur** helps achieve consistent hydration as well as superior rehydration. **Excalibur's** unique infiltration-rehydration characteristics will provide unparalleled soil moisture responsiveness.



Excalibur™



Powered By:





NEXT GENERATION • POTENTIATED RESEARCH BACKED

Excalibur™ is a new, proprietary, unique, high-performance coactive chemistry that features **Potentiated Hydrophobe Technology - PHT Technology™**. **Excalibur** is a great tank mix partner with your current agronomic program to target mitigation of varying environmental factors and place synergistic chemistries in the correct zone of the soil profile for maximum effectiveness. Targeting these zones within the soil profile makes excellent plant health achievable. 85 percent of plant weight is water. If a plant is not properly hydrated, plant health starts to decline. **Excalibur** can be placed in any agronomic program to allow the turf manager better water management control.

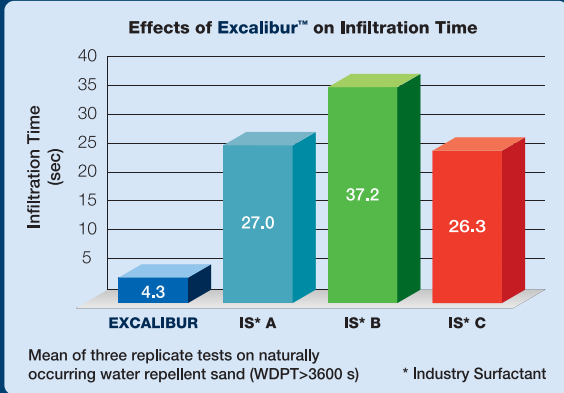


What is *Potentiated Hydrophobe Technology*

Potentiated Hydrophobe Technology is comprised of a molecule with a strong hydrophobic chain that permits a more powerful affinity to attach to soil particle surfaces allowing for supreme infiltration and longevity. **PHT Technology** allows for the water to wet quicker than any other product on the market, allowing for supreme infiltration.

What does Excalibur Do?

Excalibur is a next generation rapid response soil surfactant that delivers rapid infiltration and consistent dry-down. **Excalibur** helps achieve consistent hydration as well as superior rehydration. The unique infiltration-rehydration characteristics of **Excalibur** will provide unparalleled soil moisture responsiveness. When used as directed, **Excalibur** is safe to turf and can be applied at any time of the year to substantially improve turfgrass quality and resistance to stress. **Excalibur** is easy to apply through standard spray application equipment to all turfgrass areas.



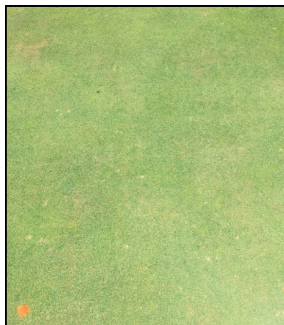
Research performed by S. Kostka - April 2018

See how Excalibur stacks up against the competition

- Excalibur improves infiltration of water **6x better** than the competition
- Excalibur is highly effective at managing water repellency in both laboratory and field trials
- Excalibur surpasses the performance of competitors in managing water repellency - a major cause of turf stress
- Excalibur produced excellent playing conditions with resilient, high quality turfgrass even under severe environmental stress

Accomplished with significantly **LOWER** rates than competing products

July 2018 (2 Applications - 30 Days Apart) 60 Days After Initial Application



Excalibur™ 4 oz per 1000 sqft



IS* A 6 oz per 1000 sqft



IS* B 5 oz per 1000 sqft



Control

Research performed by Dr. Cale Bigelow - 2018

* Industry Surfactant



Excalibur™ is a next generation rapid response soil surfactant that delivers rapid infiltration and consistent dry-down. **Excalibur** helps achieve consistent hydration as well as superior rehydration. **Excalibur's** unique infiltration-rehydration characteristics will provide unparalleled soil moisture responsiveness.

Initial Application Rate (Per 1000 sqft)	In-season Application Rate (Per 1000 sqft)	Application Timing	Watering Recommendations
4 ounces	1.5 - 2 ounces	12 - 14 Days	Irrigate with sufficient water to deliver Excalibur to the soil profile
	3 - 4 ounces	28 - 30 Days	½ inch or more recommended

Enhanced Greens Programs

The **OARS HS**, **OARS PS** and **Excalibur** solutions provide superior moisture management control for putting greens. Utilizing these chemistries during key times of the growing season and your agronomic practices ensures your rootzone receives proper hydration and mitigation of LDS casual agents for a resilient, high-quality, consistent turfgrass system.



- Removes humic coatings from hydrophobic soil particles
- Controls soil water repellency
- Improves water management efficiency
- Increases number of hydrating sites to improve moisture retention
- Reduces drought stress



- Removes humic coatings from hydrophobic soil particles
- Controls soil water repellency
- Increased length of activity in soil
- Improves water management efficiency
- Provides firm fast surface



- Enhanced adsorption to hydrophobic particles provides consistent dry-down and soil hydration
- Radically increases the infiltration of water
- Potentiated chemistry sets a NEW standard for management of environmental stresses
- Provides resilient, high-quality, consistent turfgrass
- Effective at significantly lower use rates than competing products

Application Rates and Timing

- Apply **OARS HS** or **OARS PS** at 5 oz per 1000 sqft
- Apply immediately following cultural practices to "cleanse the sand" of hydrophobic elements
- Early season and mid-summer applications to mitigate onset of LDS conditions
- Late fall application for a more consistent spring transition

Application Rates and Timing

- Begin making applications of **Excalibur** 30 days after **OARS HS** or **OARS PS** application
- Apply throughout your growing season
- Refer to label or table above for **Excalibur** rates and timing

Enhanced Fairways, Tees, and Roughs Program

The **PBS150** and **Excalibur** solutions provide superior moisture management control for turfgrass managers. Utilizing these chemistries during key times of the growing season ensures your rootzone receives proper hydration for a resilient, high-quality, consistent turfgrass system.



- 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

Application Rates and Timing

- Apply **PBS150** at 5 oz per 1000 sqft
- Apply early Spring (March / April) to mitigate LDS and soil water repellency issues throughout the growing season
- Reapply in mid to late Summer (August / September)



- Enhanced adsorption to hydrophobic particles provides consistent dry-down and soil hydration
- Radically increases the infiltration of water
- Potentiated chemistry sets a NEW standard for management of environmental stresses
- Provides resilient, high-quality, consistent turfgrass
- Effective at significantly lower use rates than competing products

Application Rates and Timing

- Begin making applications of **Excalibur** 60 days after **PBS150** application
- Apply throughout your growing season
- Refer to label or table above for **Excalibur** rates and timing

**INNOVATIVE TECHNOLOGIES
CUSTOMIZED SOLUTIONS**

Application Best Practices

- Apply Excalibur within label rates to ensure efficacy is achieved.
- Begin using Excalibur early in the growing season before water repellency and before LDS conditions are apparent.
- Best results are achieved when Excalibur is used as a full season program and not when signs and symptoms of water repellency and turfgrass stress appear.
- When making an Excalibur application with a sprayer, utilize a minimum 2 gallons per 1000 sqft water carrier.
- When making an Excalibur application on days with high temperatures and low humidity, be sure to water Excalibur off the leaf blade immediately. Fully water in later that evening.
- Excalibur has a neutral pH allowing it to be easily tank mixed. It is still important to perform a jar test to confirm compatibility.



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