

Moisture management derived from deeper science

The use of wetting agents has become common practice across the turf management industry as we are driven by a combination of environmental factors and player expectations. As scarcity of water, demands to reduce water usage, changing climatic conditions, and incidences of dry patch affecting surface playability become rising concerns, Australian turf managers are seeking further solutions.

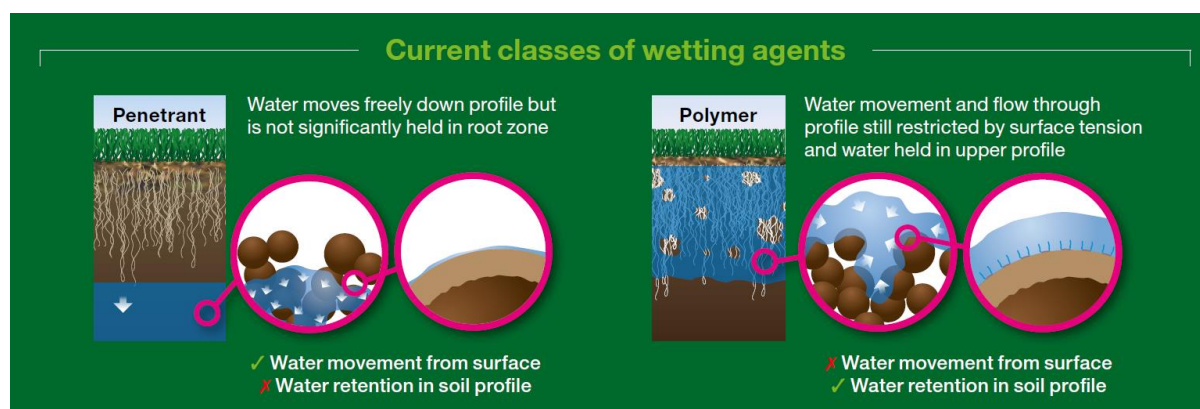
The range of wetting agents available to turf managers has evolved and become more sophisticated over time. Continuous research and field testing has allowed us to develop a variety of blends, combinations and co-formulations using different molecules so we can specifically tailor a wetting agent to a surface's particular requirements. With the diverse solutions available, each with their unique performance characteristics, turf managers can select a wetting agent that best matches their requirements

Supporting this product development is our deeper adoption of tools and technologies that measure and monitor real-time activity in the soil and root environment. These advancements in equipment enable us to identify and rapidly respond to problems and quantify the effectiveness of the solutions we implement.

These three driving factors have contributed to the commercialisation of Qualibra Wetting Agent here in Australia.

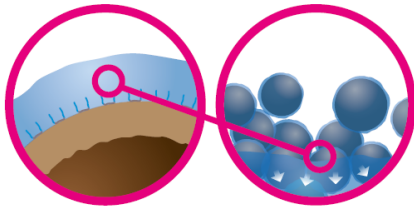
Qualibra was initially developed to address challenges associated with managing bent greens in the United Kingdom. Issues such as its wetter conditions, heavy dews, cooler climate, and lower light intensity were contributors to moisture retention occurring very high in a turf profile. A combination of different surfactant molecules was requested to reposition moisture in an effort to produce surfaces that stayed more firm and playable. Driven by Syngenta's pursuit of quality and innovation, scientists from Jealotts Hill (UK) tested over 30,000 chemicals to determine the most effective combination of penetrant and polymer molecules that would meet Qualibra's intended purpose.

Despite its development for a foreign scenario, Qualibra's characteristics solve an increasing problem in the Australian golf industry where moisture retention is vital but is sometimes desired at a depth greater than what is possible using straight block co-polymer molecules. In this situation, a pure penetrant is not entirely appropriate because while we need to move and reposition the water to a deeper point, we still want appropriate moisture retention in the soil profile. By moving moisture and retaining it deeper in the soil profile, we can contribute to surface firmness, ball roll speed, better footing, and elimination of excess surface water. In addition to the unique combination of polymer and penetrant molecules, the specific ratio of these molecules in Qualibra's formulation allows turf managers to strike the right balance between water movement and water retention.



QUALIBRA®

Combining strengths – delivering the best performance of both



High retention, High spreading

Move surface water down:

- Keep the surface firm
- Maintain putting speed
- Achieve a clean cut
- Reduce conditions conducive to disease

Retain soil moisture at depth:

- Increase water availability
- Lower plant stress
- Optimise irrigation
- Increase root mass and depth
- Minimise effects of Dry Patch

Key: Polymer Wetter molecule Water Hydrophobic organic coating Soil particle

Field studies across Australia and abroad confirm that Qualibra Wetting Agent performs consistently to increase vertical water movement on dry down cycles, and can help achieve faster and firmer surfaces when compared to other commercially available solutions. While other management practices most certainly also contribute to achieving these improved surfaces, one piece of the puzzle i.e. location of retained moisture, can now be even better controlled with Qualibra as part of the plan.

Interestingly, local trials proved that the benefits of Qualibra can be achieved without continuously using the top label rate (20L) in all situations. Following an initial conditioning of the soil where Qualibra was applied at the full rate (20L), subsequent applications in the program at lower rates (10L and 15L) still yielded a very strong performance on sand-constructed greens.

Key points from local and overseas trial data:

- Qualibra is an innovative soil wetting agent from Syngenta that has been engineered for specific performance attributes in fine turf.
- It is an excellent solution where the repositioning of soil moisture away from the surface and very upper profile is required.
- Qualibra is still very effective at initially capturing available moisture from irrigation or rainfall but the VMC%, particularly in the upper profile (0-50mm), on dry down cycles will show a steeper decline trend consistent with a penetrant moving moisture vertically.
- When using for the first time, it is recommended that the top label rate of 20L/ha be used. Subsequent applications may be within the 10-20L/ha range per label instructions and can be tailored to suit site conditions based on local data monitoring.
- Qualibra is not suitable for every golf course and situation. Its chemistry needs to be understood and matched to a site conditions. For example, the movement of water away from the upper soil profile may not be suitable for sites that suffer from other significant stress factors.

What makes Qualibra more effective?

Qualibra combines a unique and dynamic penetrant to move moisture, with a powerful polymer to hold moisture. Most wetting agents are either purely penetrant with small molecules designed to move water away from the surface quickly but not retain it, or large molecule block co-polymers, which retain water effectively but are not so effective at moving and distributing it through the root zone. Qualibra combines the strengths of both molecules to quickly move water away from the surface and retain firm playing surfaces, then hold moisture deeper and more evenly in the root zone to prevent dry patch.

Qualibra is available exclusively through Nuturf. Contact your Nuturf representative to learn more about Qualibra.

