



Ocean Organics Turf Surfactants

Late Fall Application

Ocean Organics is synonymous with plant fitness. We make materials designed to maximize plant health, hardiness, performance, stress tolerance and quality.



SUPERIOR EFFECTIVENESS THROUGH ALL SEASONS

Ocean Organics comprehensive and versatile surfactants optimize both nutrient and water use efficiency and also provide unique ingredients that boost plant fitness. **Applying our surfactants in late fall provides several benefits that help turf through winter and ensure faster green-up in spring.**

*Use Nautilus®, Mariner® or Privateer® for Greens.
Use Helmsman® for Fairways.*

BENEFITS OF A LATE FALL SURFACTANT APPLICATION:

- A late fall application will ensure maximum penetration of rainfall and snow melt before the ground freezes.
- A late fall application will help water drain off the surface during winter thaws to stave off crown hydration and winter kill in turfgrass plants.
- A late fall application will still be present in the soils in the spring maximizing water movement and moisture uniformity for healthier turf and a faster green up.

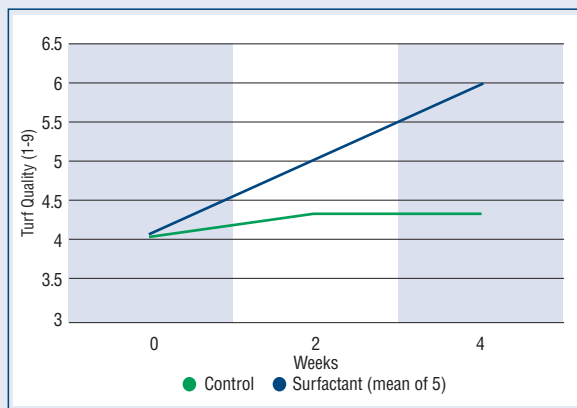
EFFICACY OF LATE SEASON WETTING AGENT APPLICATIONS

Recent research at the University of Minnesota and the University of Arkansas Show Benefits of Late Fall Application

Late fall wetting agent applications began appearing in turf management programs in North America about 5 years ago. It is already a common management practice in the UK and Ireland.

In a trial conducted at the University of Minnesota researchers found that a fall wetting agent application resulted in more rapid green up in greens height bentgrass. In order to simplify interpretation of the results the means from the five surfactants used were plotted. Interestingly, little green up occurred in the untreated control (maximum rating of 4.4 by week four in the study). In the plots receiving the late fall surfactant applications, turf quality ratings of 5 were achieved by week two and increased linearly to 6 by week four.

Effect of late fall wetting agent treatment on bentgrass spring green (Univ of MN)



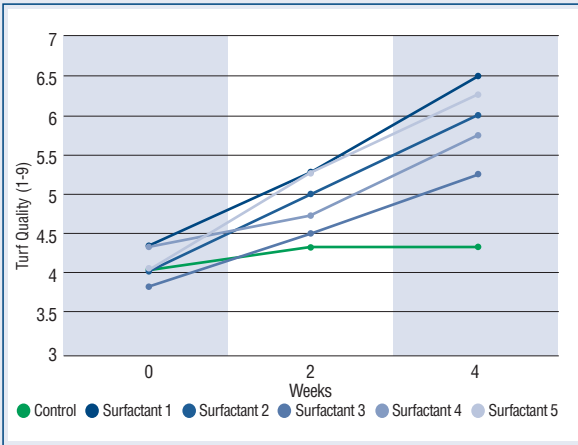
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If we look at each wetting agent separately, each had higher turf quality ratings than the control on week two and on week four. All wetting agent treatment improved green up (measured as turf quality).

Late season wetting agent treatment also resulted in:

- increased infiltration rates,
- decreased soil moisture, and
- reduced soil water repellency.

Effect of late fall wetting agent treatment on bentgrass spring green up (Univ of MN)



While these results are from year 1 of a two year study, they parallel observations made by researchers at the University of Arkansas when wetting agents were applied to greens height ultradwarf Bermudagrass growing on a USGA rootzone. In 2016, two of three wetting agents reduced WDPT in the top 2 inches of soil profiles when measured in April of the following spring.

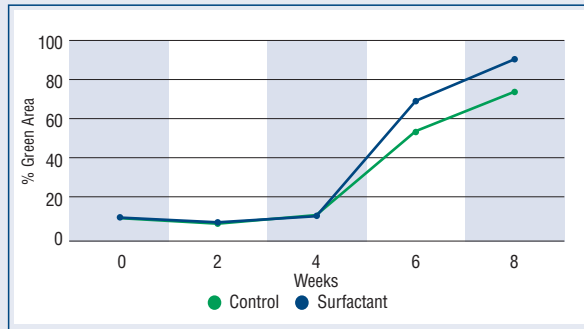
Reductions in WDPT demonstrate that:

- wetting agents alleviated hydrophobic conditions and
- restored the ability of water to infiltrate into soil pores.

On multiple dates during the spring of 2016, plots that received a wetting agent produced significantly greener turfgrass when compared to the control.



Effect of late fall wetting agent treatment on ultradwarf bermudagrass spring green up in (Univ of Arkansas)



Wetting agent treatment resulted in an accelerated green up response. Green up in the wetting agent treatment at week 6 was equivalent to the control at week 8. Wetting agent treated plots reach full green up by week 8, at a minimum two weeks before the untreated plots.

That these effects were not significant during 2017 was likely a consequence of more frequent precipitation during the winter of 2016-2017. Studies are being continued in 2018. Nonetheless, the researchers concluded that a fall wetting agent was a practical management practice.

Other researchers have observed earlier spring green up in both bentgrass (Michigan State University) and bermudagrass (University of California) in plots receiving wetting agent treatments the previous season.

**Contact your Ocean Organics Distributor,
or call today to discuss how these innovative and cost efficient surfactants
can help your turf achieve its maximum performance.**

**KEVIN COLLINS — (914) 621-1151
KEVIN@OCEANORGANICS.COM**

Ocean Organics is a manufacturer of high performance, scientifically-proven plant fitness materials including seaplant extracts and marine-based granular fertilizers. Our state-of-the-art products contain unique and proprietary constituents. Since 1977, our materials have been tested and proven in more than 35 universities and independent laboratories throughout North America.



Ocean Organics®

Manufacturing

Waldoboro, Maine • 888-312-0106

Administration

Ann Arbor, Michigan • 800-628-GROW (4769)

www.oceanorganics.com