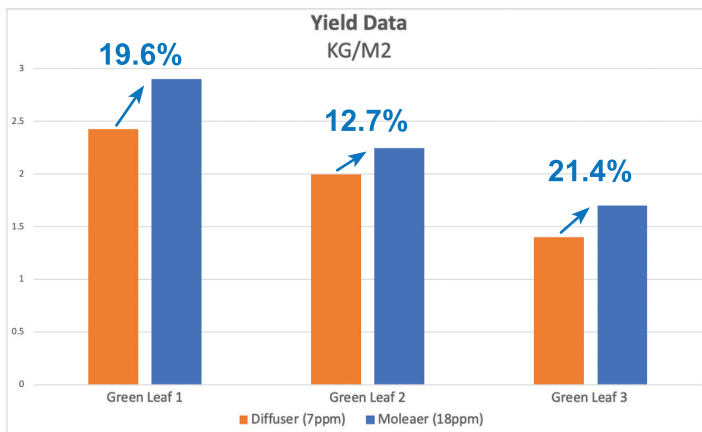




# MOLEAER'S NANOBUBBLE GENERATORS IMPROVE PERFORMANCE AT REVOL GREENS HYDROPONIC FACILITY

## Client Case Study: Revol Greens

Type:	Unit Type:	Installed:	Benefits:	Footprint:
Deep-Water Culture	200 XTB	Nov 13, 2018	<ul style="list-style-type: none"> <li>• 15% Average Yield Increase</li> <li>• 180% Dissolved Oxygen Increase</li> <li>• 80% Pythium Reduction</li> </ul>	1 Hectare



Revol Greens, a state-of-the-art hydroponic greenhouse located in Medford, Minnesota, is committed to growing premium quality leafy greens all year-round. Efficiency and optimization of the greenhouse environment are critical to overcome the challenges of the extreme temperature shifts between summer and winter. Investment in technology is necessary for Revol to maintain a high standard of production. Radiant heat and supplemental LED lighting are used to overcome the cold, low light conditions of winter, and cooling is required for the high summer temperatures. One area the Revol team was looking to improve upon was the water quality in their very large deep-water culture ponds. The challenge to efficiently aerate each 105,000 gallon / 400 m3 pond and maintain a dissolved oxygen level above saturation made Moleaer an ideal candidate to replace their existing aeration system.

Super saturating irrigation water with oxygen nanobubbles has proven to increase nutrient uptake and improve plant development and yields by up to 30%. In some cases, it can be a substitute for water cooling. Elevated oxygen levels promote aerobic, beneficial organisms in the root zone. In the case of Revol Greens, higher oxygen levels reduced Pythium levels by 80% through competitive exclusion.

“We are thrilled with the results we have seen at our Revol Greens greenhouse since installing the Bloom,” said Steve Amundson, head grower and early adopter of Moleaer’s nanobubble technology. “The ability of the system to help manage Pythium in water while promoting plant growth is substantial to our bottom line. The on-average 15% improvement in our yields was very surprising. This technology has demonstrated to us that it should and will be standardized into our current facility and the 3-hectare expansion we are doing this year.”



Every square foot of Revol Greens’ greenhouse is utilized, ensuring the local community has fresh, sustainable produce available year-round.



Moleaer’s nanobubble generator is easy to install, rapidly integrating with existing tanks and irrigation systems to boost dissolved oxygen levels in feed water.

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