MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

Improving Strawberry Cultivation with Nanobubbles

Delphy Research Institute

In the Spring of 2020, trials were conducted by Delphy Research Institute in the Netherlands, on behalf of Moleaer to examine the effects that oxygen nanobubble enrichment of irrigation water had on strawberry cultivation.

Nanobubbles

Nanobubbles are tiny bubbles filled with air, oxygen, or another gas. These nanobubbles are invisible to the naked eye and are 2500 times smaller than a single grain of table salt.

At this size, bubbles exhibit extraordinary properties. For example, they no longer float to the surface and pop, instead they dissolve slowly and evenly throughout the entire body of water. Increased oxygen in the water and root zone allows for healthier root development which leads to increased nutrient uptake.

Additionally, nanobubbles serve as a mild oxidant which means they can reduce pathogens, biofilms, algae, metals and other harmful contaminants. Moleaer's nanobubble technology provides the highest proven oxygen transfer rate in the aeration and gas infusion industry, with an efficiency of over 85 percent per foot of water (Michael Stenstrom, UCLA, 2017).

The Study

The team isolated two cohorts differentiated by one variable: dissolved oxygen (DO) and high concentrations of nanobubbles in the water. The control group held DO steady between a typical 7 and 9 mg/L, while the nanobubble treated water was brought to an average DO concentration of 30 mg/L.

Results

- **14 percent** yield increase
- **74 percent** lower Pythium counts
- Lower instances of disease (Phytophthora)
- Healthier root mass

Rev. 010522