Nanobubble Systems
Advanced aeration technology

MOLEAER™
BEYOND AERATION

LEADING CANNABIS PRODUCER IMPLEMENTS CUTTING EDGE NANOBUBBLE SOLUTION TO BOOST PRODUCTION

A leading medical and wellness cannabis company in the United States, with over ten cultivation sites across ten states, was seeking solutions to help them produce higher quantities of potent cannabis in a more efficient way. With strong roots in Dutch growing techniques, the company is known for implementing emerging technologies to maximize the genetic potential of the plants. After careful evaluation, they selected Moleaer's nanobubble generator to boost their cannabis production.

The growing facility, located in Maine, uses a drip irrigation method with a rockwool medium. This technique has long been used in cannabis production and is considered an efficient method within the industry. The company is vertically integrated, from growing cannabis to operating individual dispensaries. Boosts to their production levels, reductions to their growth times, and improvements to the quality and potency of their cannabis provide them with a significant competitive advantage in the marketplace.

Client:
Leading Cannabis Producer

Type:
Drip Irrigation

Unit Type:
25 XTB

Installed:
July 2018

Benefits:
338% Increase in DO
22% Increase in Yield
12% Increase in THC

Commercial cannabis facility utilizing Moleaer's nanobubble technology.

THC Increase	
Strain 1	11.9%
Strain 2	1.9%
Yield Increase	
Strain 1	23.5%
Strain 2	23.5%

Results showing how effective Moleaer's nanobubble generator is at improving cannabis growth.

Moleaer's nanobubble generators deliver >500 million nanobubbles per milliliter (mL) of water, efficiently boosting dissolved oxygen (DO) levels within irrigation water, thereby allowing plants to absorb more oxygen and increase nutrient uptake. This is made possible through the unique properties of nanobubbles. Nanobubbles stay suspended in water, which means there is very little off-gassing compared to traditional aeration methods. The combination of nanobubble volume and neutral buoyancy enables the nanobubbles to achieve a high oxygen transfer efficiency rate of >85%, making the use of pure oxygen on a commercial scale cost-effective. This leads to shorter grow times and more production yield from the same footprint.

In order to evaluate the efficacy of Moleaer's nanobubble systems, two identical grows were compared. One used city water that is aerated using traditional methods, with no significant effect to DO. The other utilized Moleaer's nanobubble solution paired with pure oxygen, which increased DO from 8ppm to 35ppm. This led to a 22% increase in production yield per square foot. Additionally, the potency of the cannabis increased by 12%. The grower also noted that the plants looked stronger and had no signs of any diseases. These results demonstrate how much more effective the Moleaer nanobbubles were at increasing the DO in the water.

www.nanobubblesystems.com