NanoKriti
Nanobubble technology

Agriculture and Horticulture

Modular Nanobubble Generators 100 m^3/hr) and above

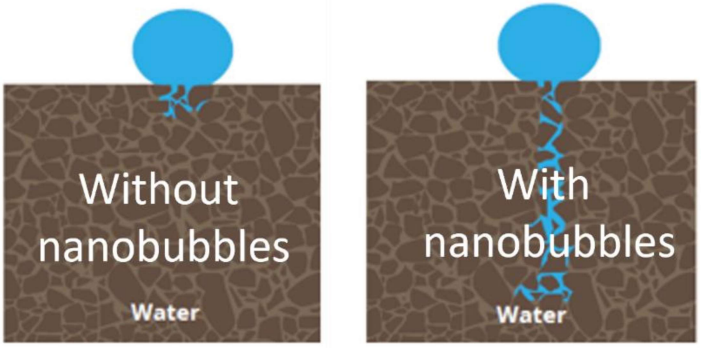
Normal ways of watering crops need more water than they need because the water doesn't get deep enough. Poor uptake of nutrients means that too much fertilizer is needed. There is no cheap way to treat plant diseases that are spread by water.

Biofouling and algae growth are big technical problems for watering systems used in agriculture. Using strong chemical biocides to control biofouling is not only expensive and doesn't always work, but it also pollutes the environment. There isn't a way to improve the soil's physical and biological conditions by promoting aerobic microorganisms. These microorganisms improve the structure of the soil particles, their ability to absorb water and oxygen, the levels of the rhizosphere, and the types of microorganisms, phosphate, and urease that help plants grow.

Root respiration requires oxygen, and plants can become stressed if they don't get enough of it. Increasing oxygen levels in the root zone will help plants grow better and require less water. Nanobubble technology offers solutions to these problems.

Improved water penetration

Nanobubbles can increase water penetration in the soil, as they have a high affinity for surfaces. When nanobubble-rich water is applied to the soil, it may infiltrate more effectively, leading to better water distribution and reduced water wastage.



Enhanced nutrient delivery

Nanobubbles can carry dissolved gases, nutrients, and other substances with them. When used in irrigation water, they may help deliver nutrients directly to the root zone, making nutrient uptake more efficient for plants. This efficiency could result in reduced fertilizer usage and, consequently, less water needed for nutrient leaching *(wang et al. 2021).*

Suppression of pathogens

Studies have shown that nanobubbles have antimicrobial properties (ROS), capable of suppressing certain plant pathogens. By controlling disease, nanobubbles may lead to healthier plants that require less water to recover from infection (Yamaguchi et al. 2021).

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