

## Improving Rose Cultivation with Nanobubbles

**Meewisse Roses:** Meewisse Roses is a greenhouse based in the Netherlands, specializing in growing premium roses in their state-of-the-art growing facility. With 37 years of experience, they produce up to 13 million roses per year.

**The Challenge:** Cultivating roses in rockwool is especially difficult due to the rose being a perennial shrub.



The rockwool mat will often be completely encased and compacted in roots preventing oxygen from spreading to the lower parts of the mat. Improving aeration throughout the rockwool mats could lead to improved plant and root health.

**Our Solution:** Meewisse Roses installed Moleaer's Neo 150 nanobubble generator to increase and maintain the dissolved oxygen levels throughout their drip irrigation system. The Neo is capable of cost-effectively injecting oxygen into their irrigation water while retaining precise control of the dissolved oxygen levels. Throughout their tests, the Neo maintained up to 35 to 40 mg/l dissolved oxygen levels (DO).

### Results:

- Notable reductions in Fusarium and Pythium levels
- Improved calcium uptake

**Key Findings:** Oxygen nanobubbles contributed to better water quality, suppression of plant pathogens, and better nutrient absorption. Measurements showed that the water from the drippers contained more than 200% dissolved oxygen (100% above saturation), up from 70% of saturation without nanobubbles.

