

NO FUSARIUM BY IONIZED WATER

Remi van Geest of cucumber nursery Green-Y-land suddenly had to deal with fusarium in cucumbers last year. The grower even had to stop growing, the problem was too big. Van Geest was given the tip to hang a circulation pump from FreshWater in the water silo. Two weeks later all the mold spores in the silo had been cleared, he says.

Tekst: Annemarie Gebrandy,
Fotography: Sharon Shouten

Green-Y-land has two cucumber nurseries in Tinte, on the South Holland islands, of 1.5 hectares and 2.5 hectares in size. Three crops per year are grown on substrate. Last February, a new cucumber crop suddenly had fusarium in it, and at the end of March Van Geest decided to clear the crop. "Normally we don't have trouble with fusarium, but suddenly it was there. Then you start looking for all sorts of causes, but usually it is due to the water. Before we started using the pump, we had a water analysis of the water in the silo done and again two weeks later. Then all the mold spores appeared to be gone. The water was clearly purified."

The energy-efficient circulation pump continuously pumps water through a special 'device'. Ionization ensures clean

water with less algae, less bacteria and less micro-organisms. You have to believe in it, but the water analyses clearly show that the water is clean, says Van Geest. "You have a problem and it has to be solved. I heard of someone whose water in the water basin was completely green and two weeks later completely clear again thanks to the FreshWater circulation pump. Then you believe it. In addition, I see with my own eyes that the filters are less dirty. The pump cleans and kills all the wrong pathogens."

Tried and tested method

Ionization is a tried and tested method for purifying water. The healthcare sector has done nothing else for years. That brought owner Aad van der Starre of FreshWater to



the idea to also develop ionisation applications for other sectors. In the poultry farming sector, his company's systems have now become the standard. Now it is the turn of greenhouse horticulture, the developer believes. The system's operation is not very complicated, says Van der Starre. By using the energy-efficient circulation pump, the water in the basin is sent past a device 24/7. This unit continuously releases ionisation into the water, creating nano-bubbles. These bubbles ensure an O₂ connection with pathogens. In this way, ionisation kills micro-organisms in the water and thus also ensures less biofilm, he explains. "The unit creates certain vibrations in the water, which enriches it with oxygen. In addition, the ions that are created are negatively charged and pathogens such as viruses are positively charged. In this way, negatively charged water ensures that viruses are killed."

More vital plant

Ionization provides long-term protection against microorganisms. This means that the water

stays clean longer. According to Van der Starre, ionization also ensures that water is structured, making it easier for plants to absorb nutrients. Remi van Geest acknowledges that. "It seems that the cucumber plant is more vital and grows somewhat more easily. That increases production. We hardly need to intervene chemically now; every time you have to spray, it means growth inhibition again. I see serious advantages to the system."

A device costs around 5,000 euros. With that you can clean between 2,000 and 3,000 m³ of water. Fresh-Water advises to place the devices in the basin and the most important silos or to connect them directly to the main pipe to the greenhouse for the best result. Van Geest has hung the circulation pump in the last water silo in front of the greenhouse. "If you want to do it right, you have to place pumps in all the silos, but that is also a financial story," he says. "The last silo is the most important silo for us, with the daily supply. By keeping this silo clean, we manage to keep fusarium in cucumber under control."

