

SHINY FRUITS FROM DARK CORNER...

Because he had previously had good experiences with ionization of the water in his greenhouse with eggplants, Rob van der Knaap from the Panda nursery in Honselersdijk also dared to experiment with vertical lighting with ionization technology. A dark corner of 250 m² has been illuminated with about sixty full spectrum daylight lamps with ionization from Freshlight since the beginning of this year. It produces remarkable results.

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The fruits that Van der Knaap has harvested are somewhat narrower and more elongated than before. "This shape is somewhat more desirable to the buyer and that is also my personal preference. The quality is good and the purple of the fruits also shines somewhat more. Whatever counts, it makes a significant difference to my energy costs."

'Energy consuming lamps'

In total, the nursery covers around 5 hectares. The 'dark corner' is in the shadow of a shed and it takes a long time for the sun to penetrate. There were, as Van der Knaap calls them, 'energy-guzzling sodium lamps' that he hardly used anymore because of the electricity costs. In his search for an alternative, he soon came across Freshlight, "because they also have energy-efficient lighting." He knows the company from its sister company Freshwater. Last year, they provided him with a device for his wastewater basin that uses ionization to ensure clean water, algae and viruses

removes and reduces micro-organisms. In KAS Magazine number 4 of 2024, Van der Knaap honestly stated that he did not fully understand the ionization technique, but that he would like to be convinced in practice. And that is what happened. The water became cleaner and he needed to use less hydrogen peroxide. "If it works with water, then it will also work with light, I thought, so we started this experiment."

Aad van der Starre is the developer of Freshwater and Freshlight. Ionization is a physical phenomenon that cannot be explained in a few sentences, but that is capable of rendering viruses and bacteria harmless and removing particulate matter from the air. Van der Starre started by placing lamps with ionization technology in chicken coops. Measurements showed that this removed at least 40 percent of the dust particles from the air. The technology is now also used in



offices, churches and in nursing homes and hospitals. And now also in horticulture. Van der Starre understands that the story needs time 'to land with growers'. 'When we knock on the door with the message that we combat pathogens by making the air more sterile, the response is often: 'someone else who claims that...' When asked whether their problem has been solved yet, the answer is always no. When I then ask whether they are familiar with our technology, the answer is also no. 'Aha' I then say, 'so I am not the one who just claims something, but I'm the first!'. And that is often a good reason to try out our products, which we develop ourselves and have built.

The devices that ionize water are now steadily gaining ground. There are now about fifty greenhouse horticulture companies that work with them. The number of growers that work with Freshlight lamps is still limited to a handful. They are, like Rob van der Knaap, still experimenting and trying things out. Van der Starre: We have installed lamps at a lily grower and at a grower of potted gerberas. The lily grower is particularly enthusiastic about the uniformity in his cultivation. 'You can almost put a ruler over it, it looks that neat!' he told me. And what is appealing is the energy saving; the high-efficiency LED lamps mean 75 to 80% less power consumption

That aspect has not escaped Rob's attention either. "The 60 LED lights that are now hanging there use about as much power as one of those old lights." The new lighting switches on when the sun rises and off again at sunset. "I chose to imitate the length of the day so that the plant does not get a blow all at once when the light switches on." Aubergine plants are known for producing a lot of dust. "There is a kind of dust edge on the leaf. You hear people sneezing quite often in our greenhouse. If the ionization also does something about that, and people can work dust-free, that is a bonus. Is there already less sneezing? Well, that is difficult to say. The corner where we are now experimenting is a bit on the small side for that, I think. And it is also too early to say whether I am going to hang the entire greenhouse full of these types of lamps. We are still puzzling over how to distribute the lamps properly and how to get good lighting not at the head of the plant, but at the mature leaf half a meter below it. The first findings are positive. Previously, that dark corner lagged behind the rest in terms of growth, but now it is going nicely in step. The results are slightly better than with the SON-T lighting and when the crop has grown a bit longer, we can also start testing what this approach does against mildew, botrytis and other fungi and bacteria."

