

Algarve, Portugal – 2021

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## HPGen protects avocado plantation in Portugal

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- 💧 HPGen improved health of avocado trees through improved irrigation uniformity, additional root zone oxygenation and enhanced plant protection
- 💧 Larger amount of new shoots in trees with HPGen dosing
- 💧 100% flowing drippers, with minimal maintenance



#### The customer – premium avocado grower in Southern Portugal

Tropical Concept is a family-owned company that grows premium avocados in a 200 ha plantation in the Algarve region in Southern Portugal. Water is sourced from a borehole, and as is typical in the region it contains a large amount of organic material.

The avocado plantation was struggling with high organic content in the irrigation water, which resulted in periodic bacterial outbreaks that clogged filters and drippers, and caused poor irrigation uniformity. This also threatened the health of the avocado trees, which were under stress due to non-uniform distribution of water and fertilizer, as well as attacks from water-borne pathogens. Tropical Concept was looking for a long-term solution to protect the trees.



*Row of avocado trees and close-up image of an avocado at Tropical Concept.*



#### Protecting the crop with HPGen

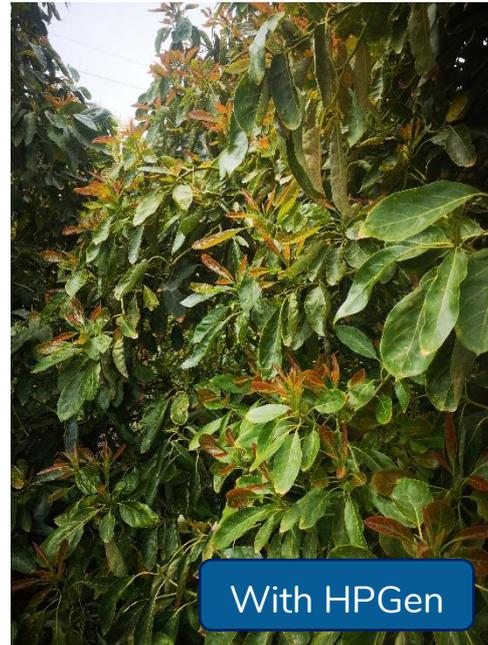
HPGen improves and protects the crop through cost-effective and simple irrigation water treatment. The HPGen A series is designed specifically for the agriculture market and integrates seamlessly with standard irrigation systems. HPGen produces a safe concentration of Peroxide UltraPure™, a very high purity solution of hydrogen peroxide. Peroxide UltraPure™ is injected into irrigation lines, where it keeps the water system clean and the emitters flowing, and enriches the irrigation water with additional oxygen. This ensures an optimal irrigation uniformity, increased nutrient availability, and many HPGen customers notice higher yields after installing the system.



*Vítor Gomes (right), GM of Campicontrol, together with Pepe Meca, Iberia Sales Manager of HPNow next to HPGen system.*

At Tropical Concept, the grower started by dosing Peroxide UltraPure™ in a section of the plantation only, while leaving another section without dosing. Within three weeks differences started to appear between the two sections: firstly, Tropical Concept reported that drippers in the dosed section were flowing very uniformly and appeared clean of bacterial slime and biofilm. Another six weeks forward the crop started responding to the optimal delivery of clean water and nutrients, as can be seen by the strong, vigorous growth of new shoots in the dosed section as compared to the section without dosing.





*Comparison of new shoots in avocado trees in a field section without HPGen, and in a section with HPGen. The small brown leaves, more prevalent in the section with HPGen, are new shoots, which indicates healthier plants and more vigorous growth in this section of the plantation.*



*Comparison of drippers in sectors without HPGen, and with HPGen. The brown substance in the picture without HPGen was determined to be bacterial slime. This blocks the water path in the dripper, and causes poor irrigation uniformity. The dripper with HPGen dosing appears very clean, without any obstructions on the water path.*

Following implementation of the HPGen system, technical manager José Furtado (Tropical Concept) reports: 'We had never experienced an irrigation as uniform and trees as healthy as after installing the HPGen system. Now we have the peace of mind to know that our avocado trees are well protected and look forward to an improved harvest next year.'



#### HPGen setup

The HPGen was installed in the irrigation room and set to automatically fill a buffer tank with Peroxide UltraPure™. Dosing was done through a proportional dosing pump, which is both simple and effective. The system operates completely autonomously, without need for user intervention.



Learn more about the HPGen system and its benefits for agriculture at:

<https://www.hpnw.eu/irrigation-water-treatment/>

