



Announcements

- Click here to receive this news directly in your inbox



Job Offers

- Managing Director - Holland
- Farm Manager - Abu Dhabi
- Farm Manager greenhouse vegetable production – Vietnam
- COO Flower & Plant greenhouse production farm, Vietnam
- Sales Representative - Leamington (Ontario) Canada
- Assistant Production & Plant Health Manager
- Commercial Manager | Huelva, Spain | Soft Fruits
- Head of International Farming

"Chemical-free biofilm elimination is here"

"A shocking 99% of the world's bacteria are found in biofilm communities. This so-called "bacterial adhesion" is like a living tissue on the pipe's surface, and is a paradise for bacteria of all kinds. This can collect in pipes and lead to clogging – a constant source of frustration to growers, who previously had little choice but to turn to chemical remedies." Speaking is Raymond Lescauwat with Aqua-4D.

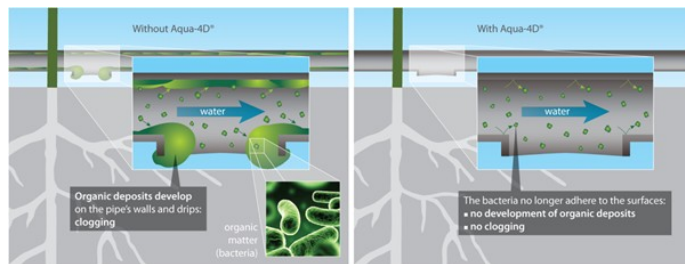
Aqua-4D Water Solutions - you might not guess - offers a solution to this. Their patented Swiss technology uses low-frequency signals which are applied to the water before irrigation

"The Aqua-4D system is a simple and ecological solution for those eager to avoid biofilm", Raymond continues. "The system subtly modifies the structure of the water, reducing the adhesion forces between organic matter and pipe surfaces. This means that biofilm cannot develop as it no longer adheres but flows right through."

Infectious disease in agriculture

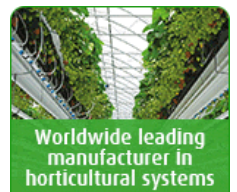
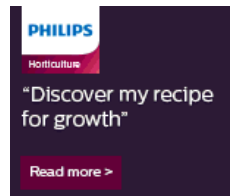
Research has shown that a major cause of infectious disease in agriculture is the development of biofilm in water supply pipes, and the festering environment this provides for bacteria.

A PhD study at the University of Savoie in France studied the effects of the Aqua-4D system in a lab environment, Raymond shows. The researchers observed a biofilm layer decrease of up to 74% after a 45-day trial. "It was noted that practical application in the field with higher flow rates would lead to up to 100% of biofilm being eliminated."



"Indeed, this is exactly what has since been proven at various installations across the world", he continues. "Notable recent examples from 2018 include a validation study on a mushroom farm in the north of Thailand, and the case of Pierre Guyomar, a tomato grower in Brittany, northwest France."

Guyomar's cooperative was suffering from clogging problems which after analysis, proved to be down to biofilm in the drippers. After trying and failing to resolve this using chemical solutions, they turned to Aqua-4D; even after a year of use without flushing, the pipes have remained completely clear.



- Sr. Productinnovatie (R&D) Engineer
 - Aftersales Coördinator
- more

"Tweeting Growers"

Top 5 -yesterday

- "Hydroponics help us guarantee constant soft fruit supply"
- What dynamic LED grow lights can do for a vertical farm
- Nature Fresh Farms ceremony marks transition of phase 1 greenhouse
- CAN (ON): New greenhouse operation proposed in Amherstburg
- "We could start working with 12 hectares of greenhouse heating right away"

Top 5 -last week

- Little Leaf Farms goes on expansion spree
- 30 vintage Jaguars found in old greenhouse
- "Spain must take ToBRFV seriously to prevent tomato cultivation from being threatened"
- From 10 to 20 to 40 acres
- "Following the online water content in the substrate will improve irrigation efficiency significantly"

Top 5 -last month

- A guide to grow light spectrum
- Largest single-build greenhouse in North America nears completion
- Danish judge condemns calling PLA plant pot biodegradable
- New Ontario partnership to build 27 acre greenhouse in Kingsville
- Producing seedlings in an off-grid LED lit vertical farming facility

Exchange Rates [more »](#)

- USD: 1.1077
- JPY: 120.27
- AUD: 1.6275
- BRL: 4.5891
- CAD: 1.4666
- CNY: 7.7968
- NZD: 1.6945
- ZAR: 16.4121

Foreign exchange reference rates for the Euro

Source: ECB

"The evidence is mounting, therefore, in favour of ecological and non-invasive treatment against biofilm", Raymond continues. "As far back as 1988 it was found that **"Biofilm bacteria display a resistance to biocides that may be considered stunning"**, with even straight hydrogen peroxide having limited efficacy due to its interaction with the biofilm's enzymes. More recently, **a 2016 study** showed the ineffectiveness of chlorination, with rapid repopulation of biofilm within seven days of treatment, meaning success only comes at the price of constant chemical use."

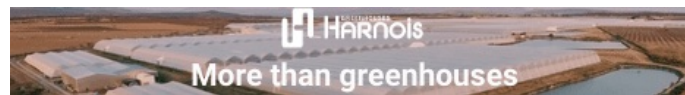
"With these examples, and results from new validation studies constantly emerging around the world, it is increasingly clear that ecological and chemical-free solutions to biofilm are the future, and ith Aqua-4D we are leading the way."

Visit Aqua-4D at the Greentech 2019 in Amsterdam in hall 08, booth 791. [Register your visit here.](#)

For more information

Aqua-4D Benelux & Deutschland
 Mob +31 (0)6 51608350
 Graaf Florislaan 40
 1217KM Hilversum, Nederland

Publication date: Wed 24 Apr 2019



email this article Print

Receive the daily newsletter in your email for free | [Click here](#)

Other news in this sector:

- 2019-06-21 GreenTech 2019: What did you miss?
- 2019-06-20 FarmTech Society held first constitutional annual general meeting
- 2019-06-19 Toasting on sixty-year-old Sudlac
- 2019-06-18 New Visser machines for AutoStix
- 2019-06-17 Why GreenTech Americas?
- 2019-06-14 "This tool helps growers and greenhouse builders to make the right choices"
- 2019-06-13 "You can compare plastic to dog poop"
- 2019-06-12 GreenTech launches GreenTech Americas
- 2019-06-11 Sustainable pots taking off
- 2019-06-10 "From ancient to now" the history of the Chinese solar wall greenhouses
- 2019-06-07 The Challenge of Change
- 2019-06-07 This is what working in the high-tech crop production looks like
- 2019-06-06 "Controlling Tracey with pre-night temperature works well"
- 2019-06-05 Nijssen presents new model MyGrowthRoom at GreenTech Amsterdam
- 2019-06-04 "If only that plant could talk"
- 2019-06-03 Breeding and growing in 100% safe circumstances
- 2019-05-31 New high voltage 600-Watt fixture introduced to the Elixia family
- 2019-05-30 New crops highlighted Vanilla Curcuma Black Pepper and Medicinal Cannabis
- 2019-05-30 New AutoStix developments with Multi Media strip
- 2019-05-29 "Ideal growing conditions wanted 365 days a year"

[<< Back | HortiDaily.com](#)





horti daily
Global Greenhouse News



© HortiDaily.com 2019