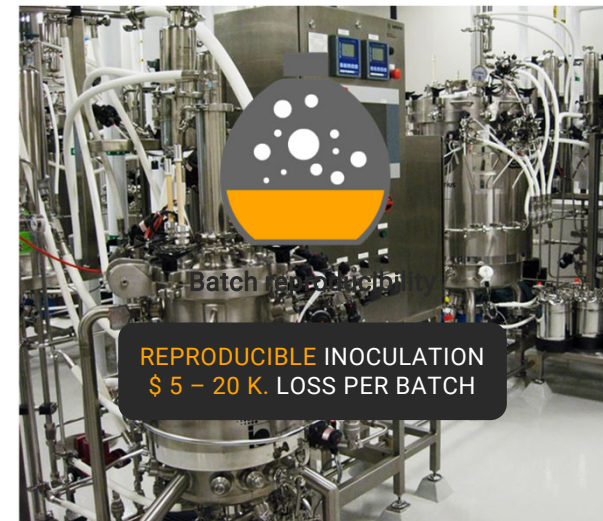
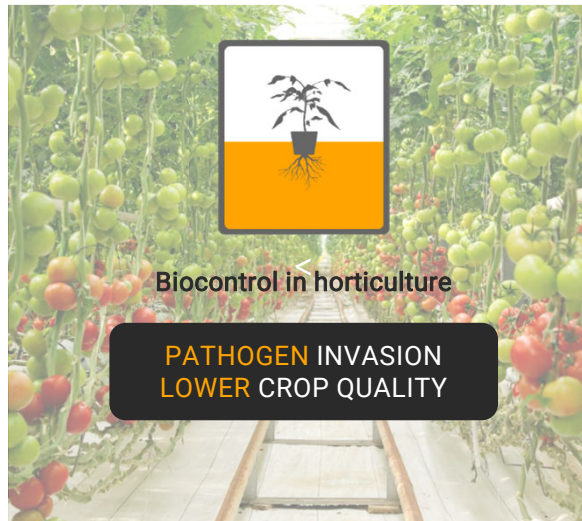


VAP Symposium 2020

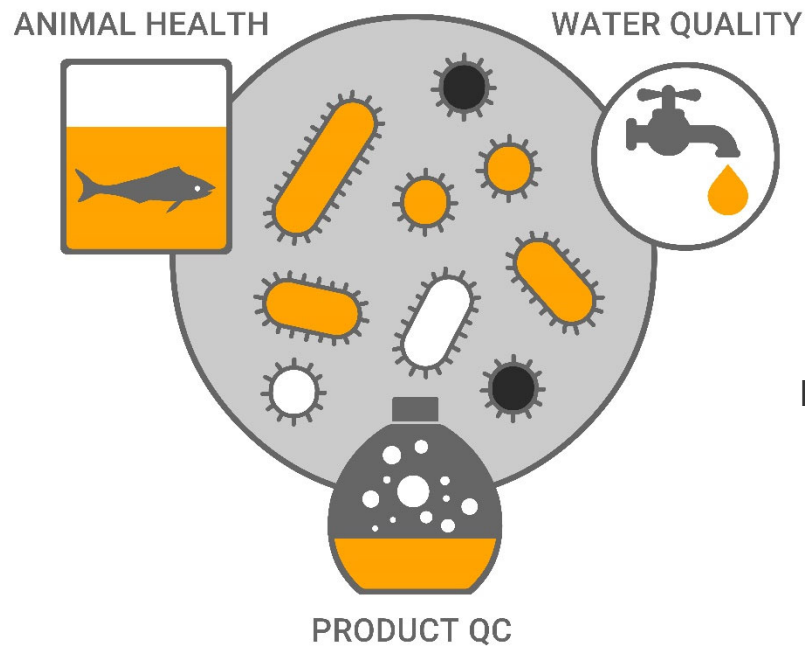
THE PROBLEM

Our bioeconomy has a microbiome management problem.



MICROBIOMES MUST BE MANAGED

Microbiomes can be responsible for a loss of 30 % per crop



Microbiomes are complex ...

- 1000s of species
- algae, viruses, bacteria
- change rapidly

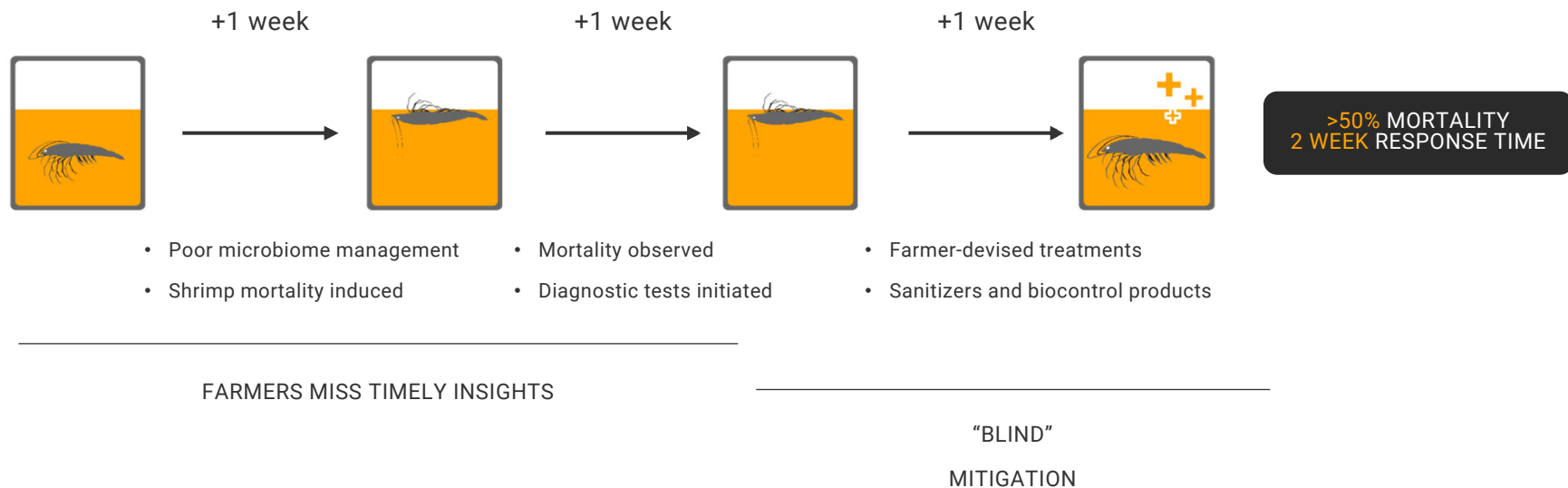
Microbiome technologies are ...

- focused on diagnostics (e.g. 1 species)
- expensive and slow turnaround

TODAY

Slow and perilous process based on **anecdotal** control measures

Fit-for-purpose biocontrol products are used according to **rigid protocols**

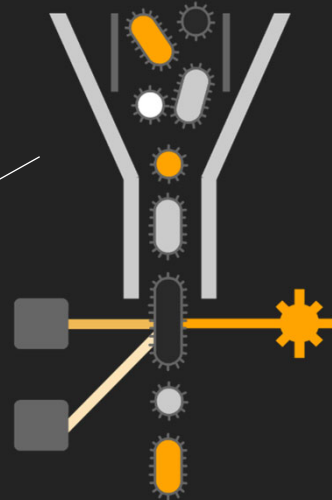


OUR SOLUTION

Technology platform to manage microbiome health and performance

Characterize every microorganism
in your system

Quantitative and rapid analysis
enables cost-efficient data
collection



Proprietary microbial
fingerprinting algorithms

Data-driven management
advice

Interactive intel
dashboard for user
interaction



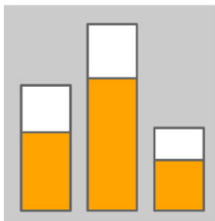
BIG DATA FROM A SMALL SAMPLE



From 1 milliliter of sample



MICROBIAL LOAD



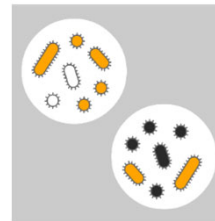
Concentration of microbial cells (incl. viable) detected in your samples.

TRACKERS



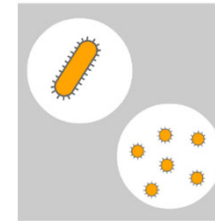
Metrics that describe the diversity and complexity of your microbiome.

TYPE



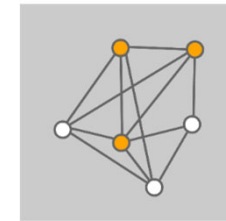
Microbiome type predicted based on the KYTOS reference database.

SIZE/BIOVOLUME



Size and biovolume trackers of the microbial cells in your sample.

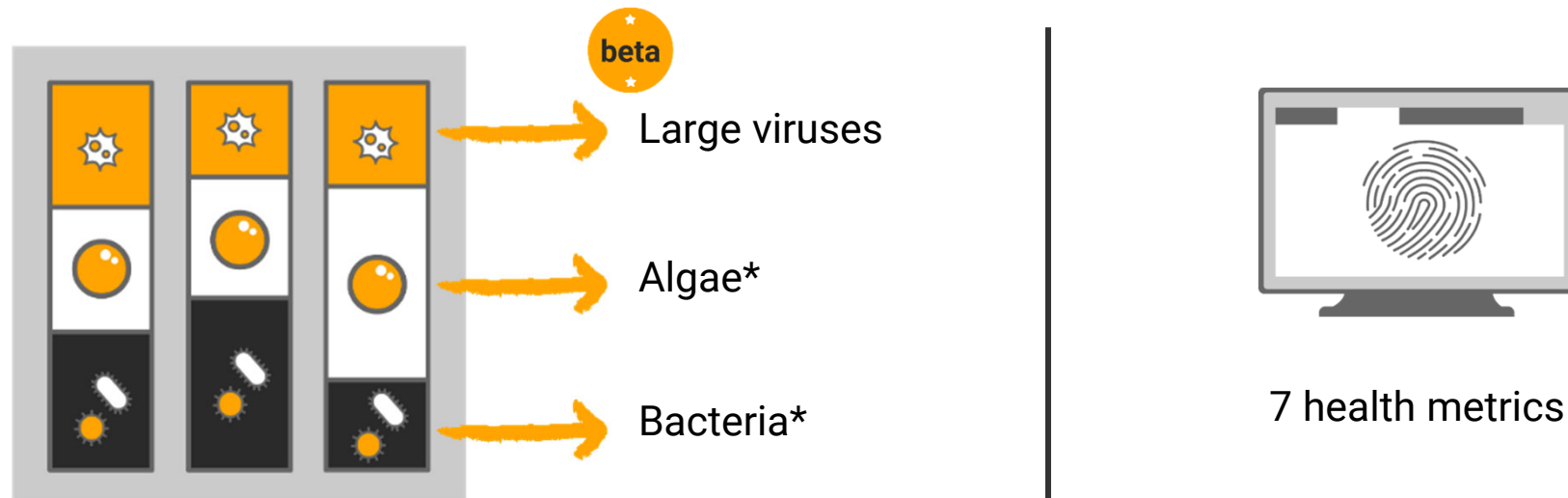
BESPOKE ALGORITHMS



We continuously develop new and bespoke algorithms. Using our large database we can tailor predictive models to your needs.

A HOLISTIC VIEW OF THE MICROBIOME

7 x 3 microbiome health metrics are used to provide management advice

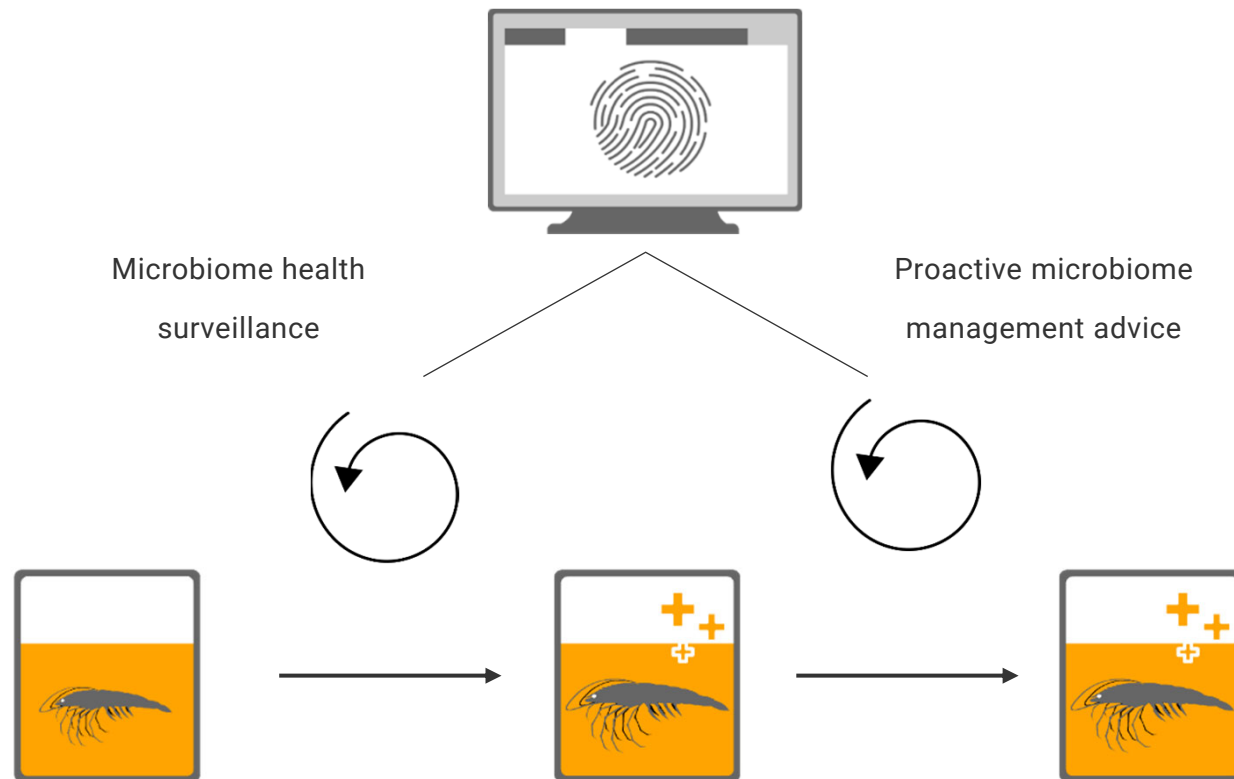


** Taxonomic identification of algae and bacterial populations under development!*



THE FUTURE OF MICROBIOME MANAGEMENT

We associate microbiome fingerprints with management strategies



TECHNOLOGY PLATFORM

A technology platform to manage and mitigate microbiome dysbiosis

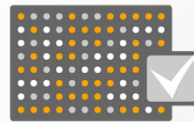
PROTECT



KYTO*vial*

Protecting the microbiome during its journey to the lab

SCREEN



KYTO*check*

Screening efficacy of biocontrol products *in vitro*

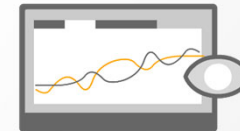
INTERPRET



KYTO*box*

Access and interpret the analysis results

MANAGE



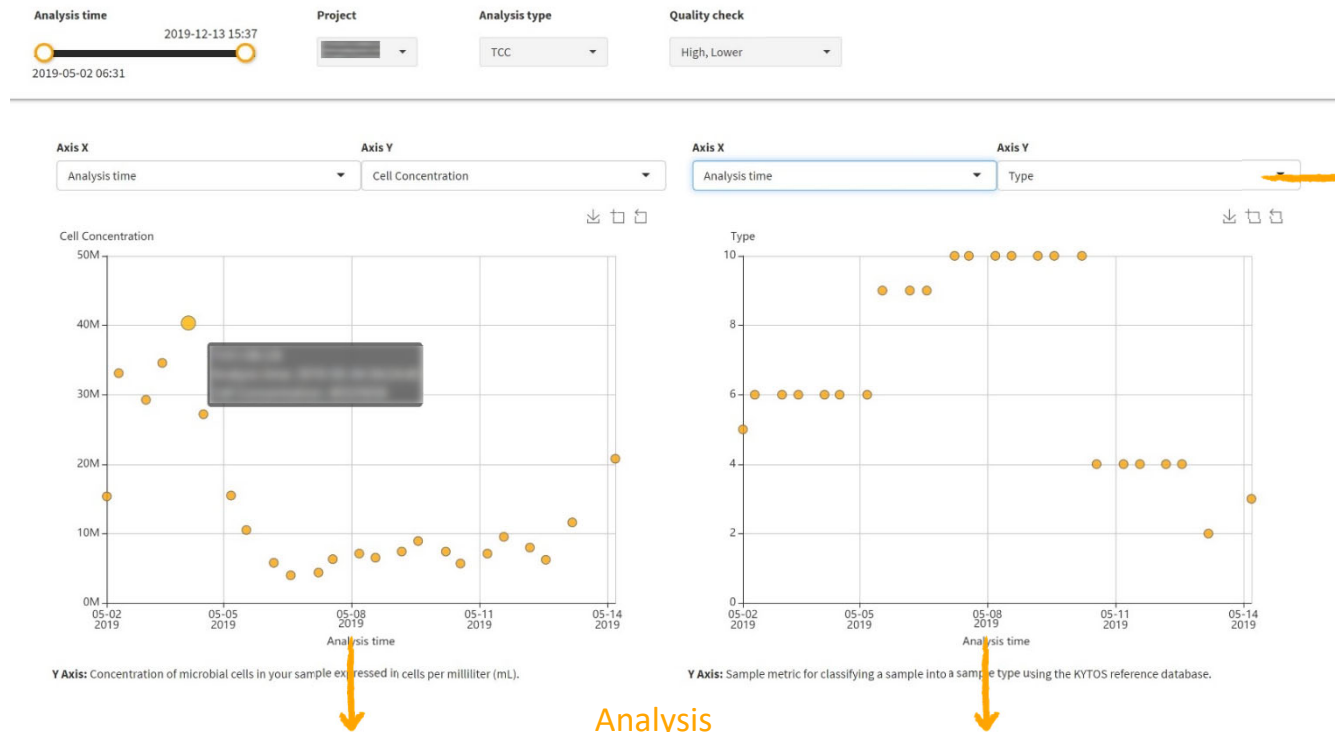
KYTO*flow*

Software engine that drives management decisions



GET THE INTEL YOU NEED

Filter results



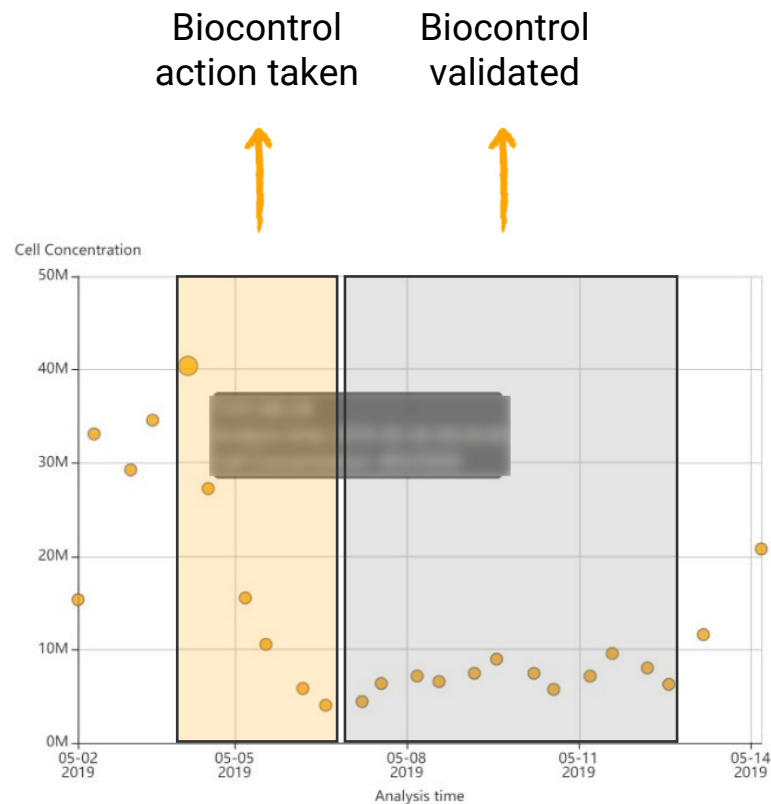
Customizable analysis charts enable you to extract important insights from the analysis results. The graphs can be further refined interactively and downloaded as a high resolution image file.



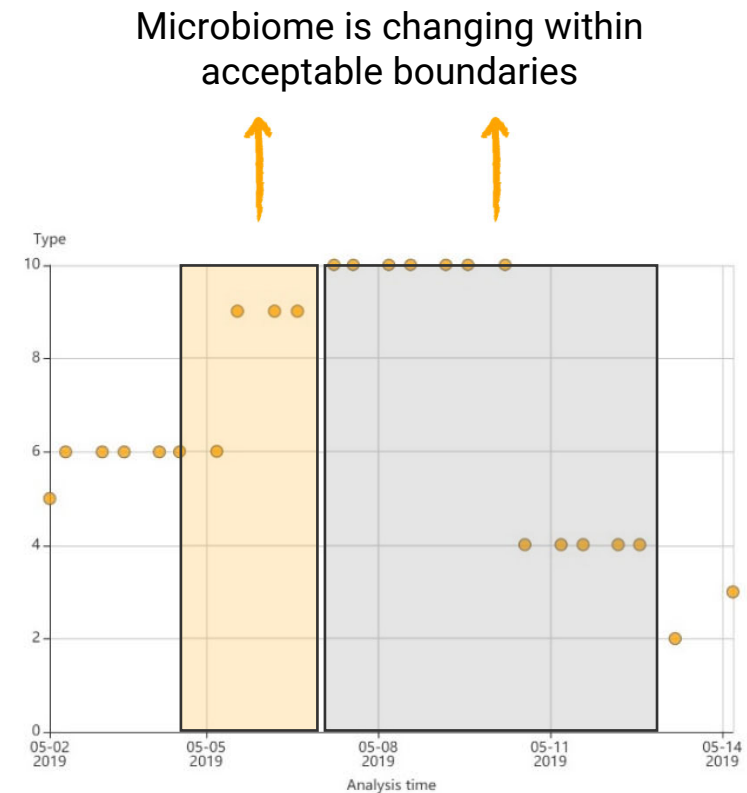
KYTO_{box}

GET THE MANAGEMENT YOU NEED

Our algorithms have been validated in hatcheries and at full-scale ponds



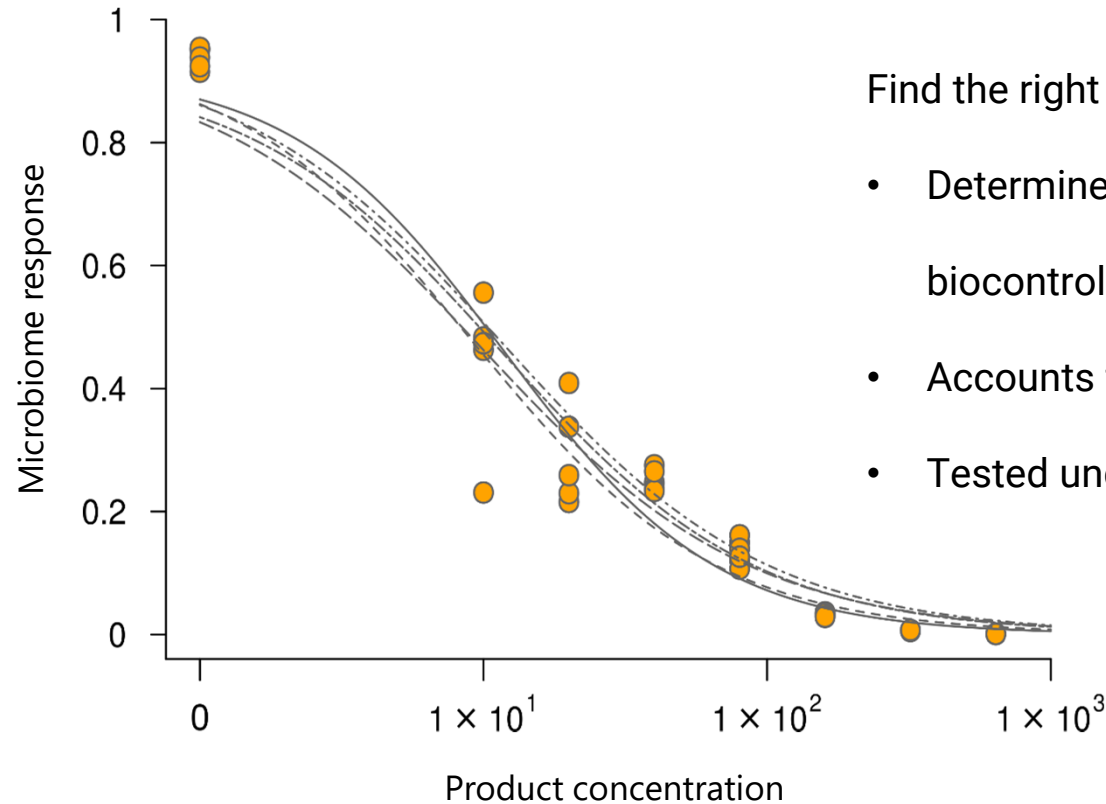
Y Axis: Concentration of microbial cells in your sample expressed in cells per milliliter (mL).



Y Axis: Sample metric for classifying a sample into a sample type using the KYTOS reference database.



FIND THE BEST MANAGEMENT PRODUCT

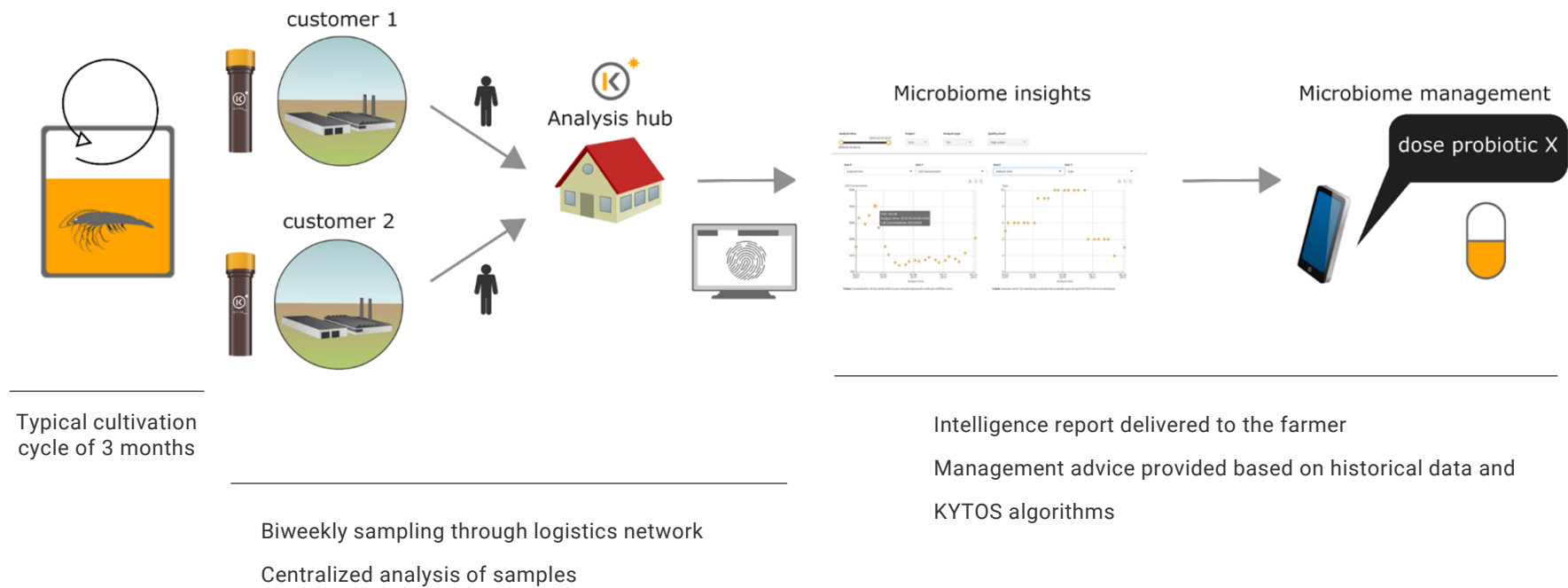


Find the right product

- Determine effective dosing concentrations of biocontrol products
- Accounts for all cells, not just culturable
- Tested under representative farm conditions

EC ₅₀ -24h	St.dev EC ₅₀ -24h	Organism
2.9 mg L ⁻¹	0.1 mg L ⁻¹	<i>Vibrio</i> sp. 1
4.9 mg L ⁻¹	0.2 mg L ⁻¹	<i>Vibrio</i> sp. 2
9.8 mg L ⁻¹	1.3 mg L ⁻¹	Community

GETTING TO THE FARMER



TEAM



F-M Kerckhof

PhD, co-founder



Ruben Props

PhD, co-founder



Nico Boon

Professor UGent,
co-founder

Feel free contact us at kytos@ugent.be for more information.



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SYNOPSIS

1. We bring microbiome management technology to the industry!
2. A holistic view of your microbiome is within your grasp.
3. Our platform is modular and developed for farmers as well as product developers and solution providers!

We are actively seeking projects that extend the scope/application of the technology!

