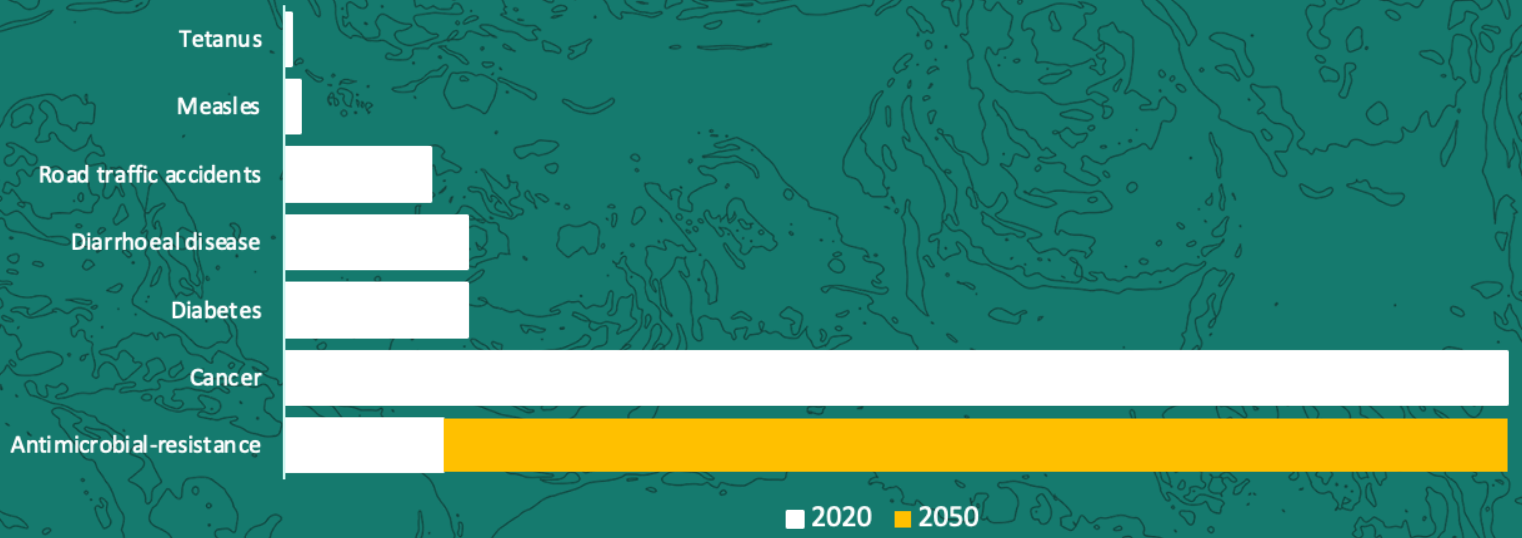
Targeted antimicrobials for disease prevention & microbiome health.

ORGANICIN SCIENTIFIC

PROBLEM

Antimicrobial-resistance is a top global public health crisis of our generation*



Deaths From Drug-Resistant Infections Set to Skyrocket: Predicted mortality from antimicrobial-resistant* infections (AMR) vs. today's common causes of deaths

* World Health Organization, "Antimicrobial Resistance", 21 November 2023
** Statista, "Deaths From Drug-Resistant Infections Set To Skyrocket", 26 May 2023

Antibiotic resistance is forcing changes in agriculture and healthcare.

COMMISSION DELEGATED REGULATION (EU) 2023/905

of 27 February 2023

supplementing Regulation (EU) 2019/6 of the European Parliament and of the Council as regards the application of the prohibition of use of certain antimicrobial medicinal products in animals or products of animal origin exported from third countries into the Union

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC ([1]), and in particular Article 118(2) thereof,

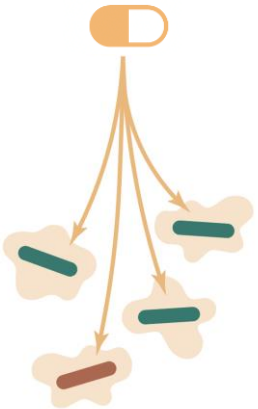
PROBLEM

AHPND causes $7B in annual losses.

SOLUTION

Bacteriocins prevent disease, without toxicity.

Bacteriocins are an ancient family of **naturally** occuring, **target-specific** proteins routinely employed by microbes to displace competitors and invade novel environments.

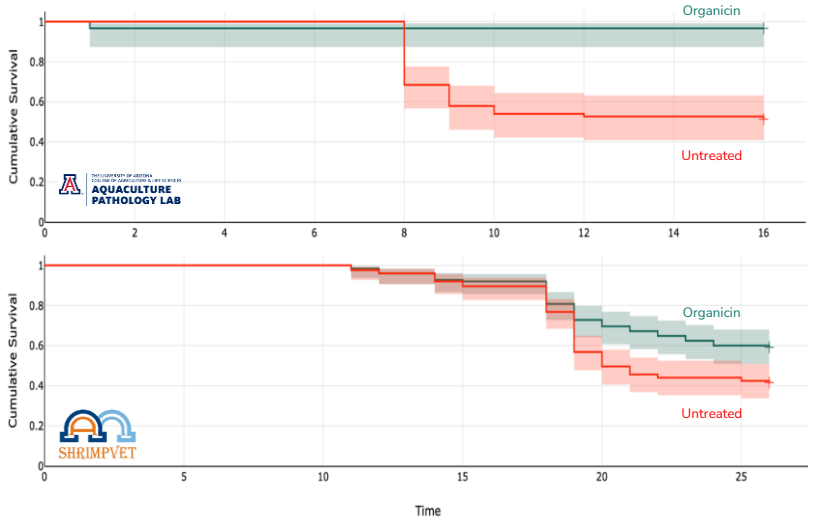
Antibiotics		Bacteriocins
Indiscriminate activity		Highly targeted
Significant damage to microbiome		Modulates microbiome
Bioaccumulate		Biodegradable & thermostable
Antagonistic		Synergistic & amenable to bioengineering

ORGANICIN SCIENTIFIC

SOLUTION

Bacteriocin-based feed additive prevents EMS/AHPND mortality in shrimp.

In Vivo Validation: Improving Survival by up to 165%



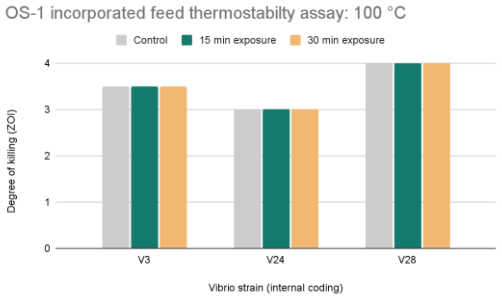
Improved Weight Gain

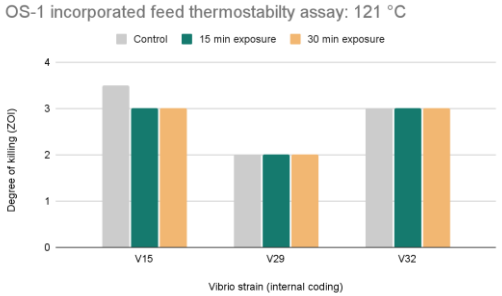
Stimulates Immune Response

Thermostable at 121°C

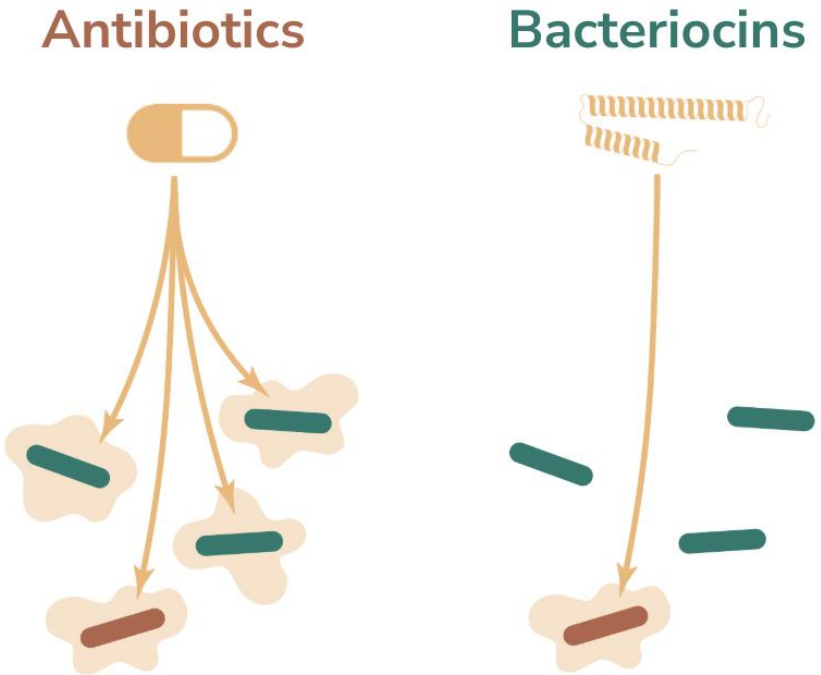
ORGANICIN SCIENTIFIC

Bacteriocins retain activity when exposed to heat-extrusion parameters.

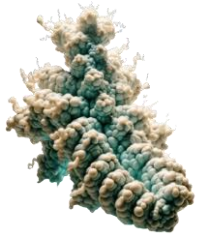




Negligible resistance pressure

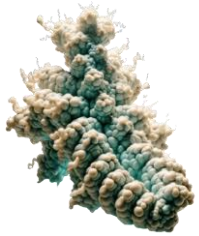


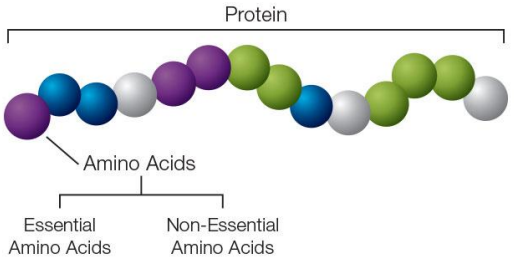
Direct mechanism of action



Selectively ‘pops’ pathogenic Vibrio spp. like a balloon

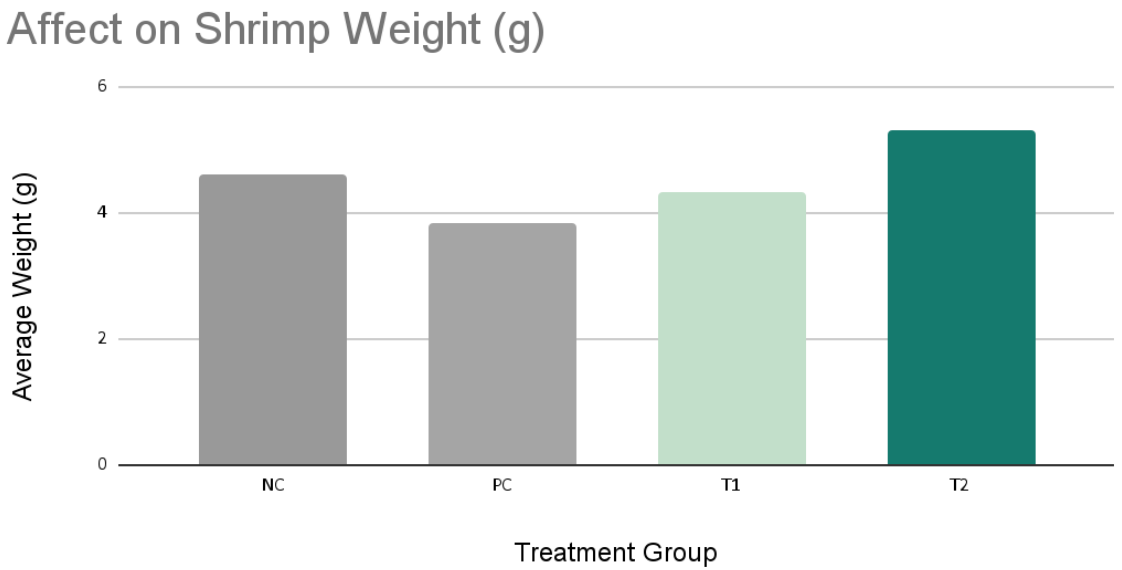
No residues or bioaccumulation



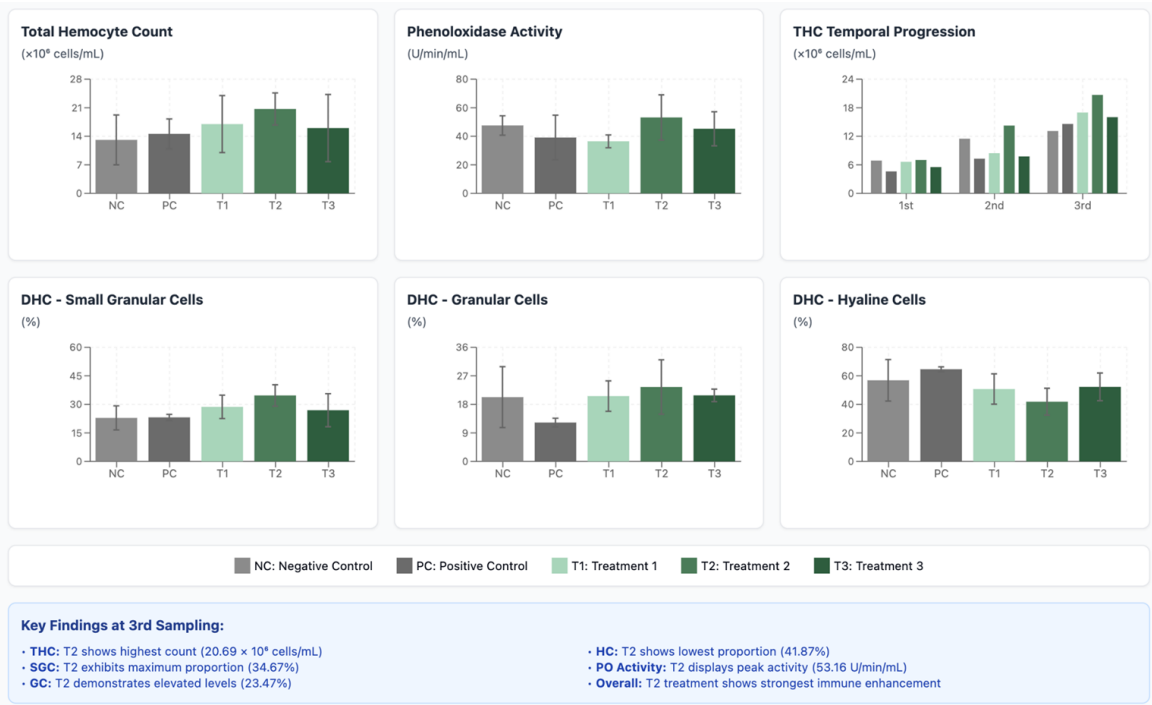


Bacteriocins as proteins, are digested into amino acids

Increases biomass through microbiome remodeling



Increases immune function by hemocyte stimulation

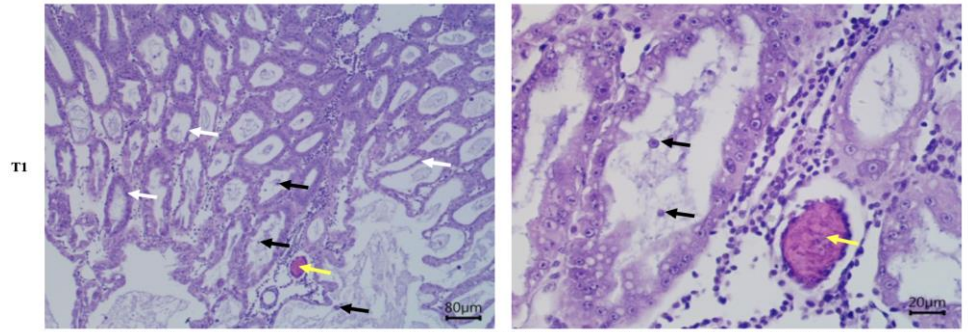


Key Findings at 3rd Sampling:

- **THC:** T2 shows highest count (20.69 × 10⁶ cells/mL)
- **SGC:** T2 exhibits maximum proportion (34.67%)
- **GC:** T2 demonstrates elevated levels (23.47%)
- **HC:** T2 shows lowest proportion (41.87%)
- **PO Activity:** T2 displays peak activity (53.16 U/min/mL)
- **Overall:** T2 treatment shows strongest immune enhancement

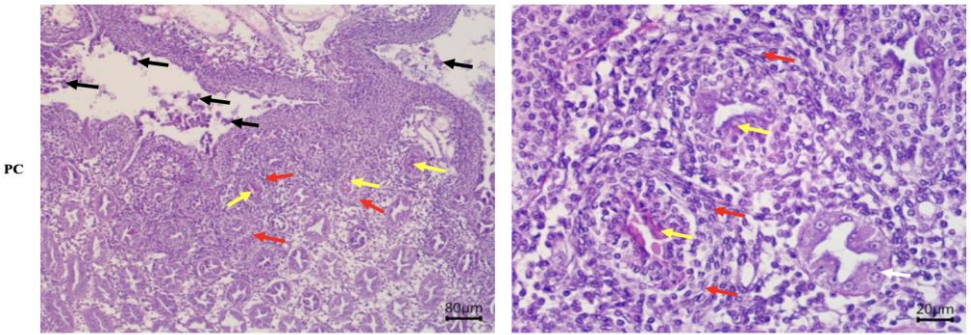
Reduces lesion severity and frequency

Organicin: G0/G1



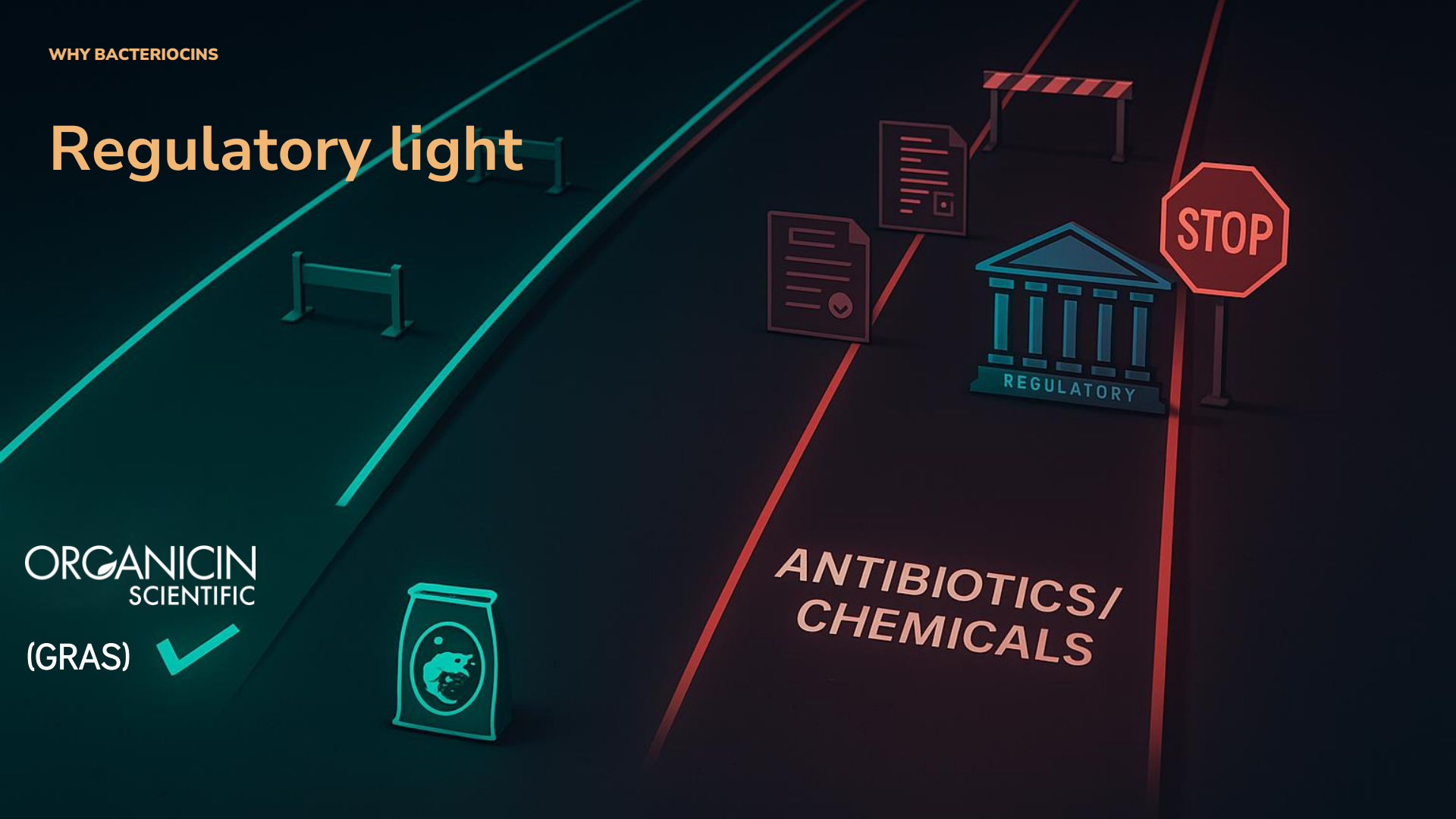
HP tubules lacked the presence of vacuoles in B cells (White arrow) and sloughing HP cells (Black arrow) and melanization of necrotic material inside the lumen (yellow arrows).

No Organicin: G1/G3



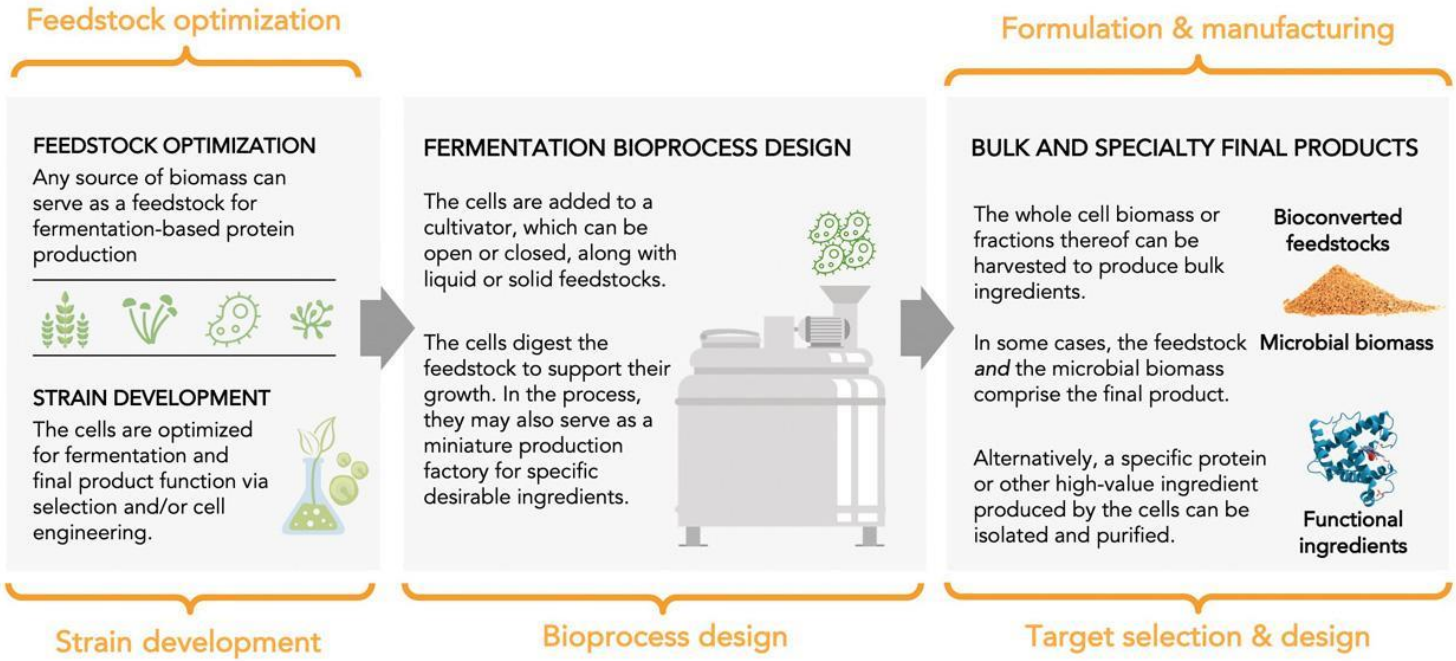
HP tubules showed sloughing HP cells (Black arrow), hemcycte infilltration (red arrows) and melanization of necrotic material inside the lumen (yellow arrows).

Regulatory light



SCALABLE

We produce bacteriocins through fermentation.



ORGANICIN SCIENTIFIC

SCALABLE

Already at scale, 20MT annual capacity.

In-house lab-scale production and large scale production partner

State-of-the-art Facilities
for Fermentation and
Separation/Purification
of Biomolecules

ORGANICIN SCIENTIFIC

How we engage with partners

Milled into feed for shrimp feed suppliers

Flexible formulation for diverse distribution requirements

Top coating formulation for farmers

PARTNERING

Ready to collaborate ***today***

Lab Trials

Field Trials

ORGANICIN SCIENTIFIC

TEAM

Backed by a world-class team with 70+ years of bacteriocin research and commercialization experience

Griffin O'Driscoll, MS
Cofounder & CEO
Pharmaceutical Market Access consultant (GSK, Gilead)

vantage PARTNERS | QUESTROM SCHOOL OF BUSINESS | UMassAmherst

Margaret Riley, PhD
Cofounder & CSO
Professor of Biology, UMass Amherst, 30+ years of bacteriocin research, 100+ papers

UMassAmherst | Yale

Mat Mitchell, MS, MD Candidate
Cofounder & CTO
Drexel College of Medicine, 8+ years of bacteriocin research

UMassAmherst | DREXEL UNIVERSITY College of Medicine | GEORGETOWN UNIVERSITY

Dr. Joe Crabb
Former CSO, ImmuCell, 30+ years of bacteriocin commercialization

Diane Larsen
Former Head of Global Clinical Operations, Boehringer Ingelheim Animal Health

Regis Bador
CEO, InnovAquaculture, 40+ years of aquaculture technology development

Dr. Ed Rietman
Bell Labs, Dana Farber, 150+ technical papers, 6 books, 30+ patents

ORGANICIN SCIENTIFIC

Thank you!

ORGANICIN SCIENTIFIC