

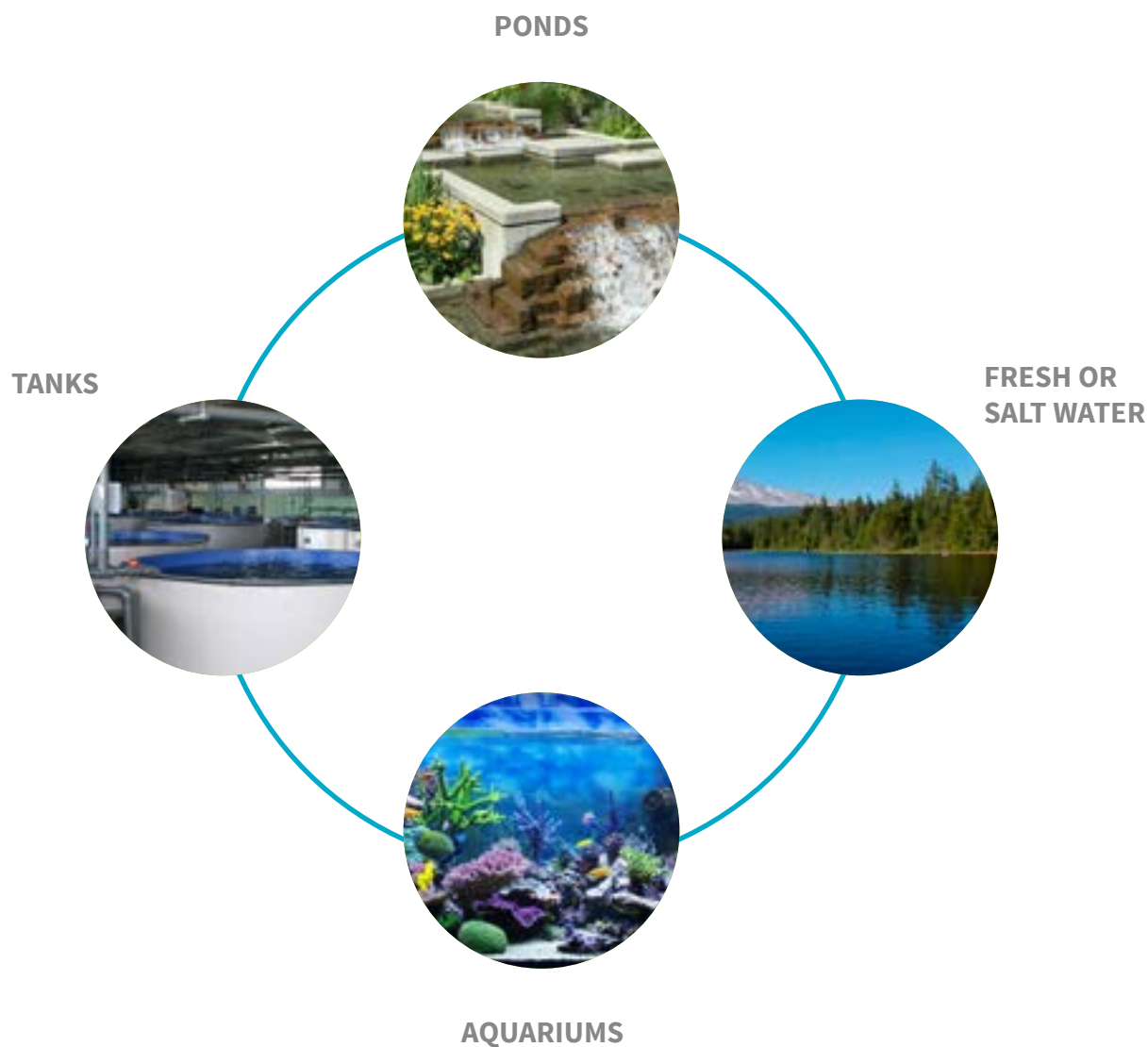
BS-BL™

Promotes healthy water quality
and pathogen reduction.

¿WHAT IS IT?

BS-BL™ is a highly concentrated biological product of *Bacillus pumilis* and *Bacillus amyloliquefaciens* bacteria with antagonistic and inhibitory potential for a wide range of bacterial, fungal and parasitic pathogens. Efficient in the control of cyanobacterial species. Promotes animal health.

USES AND APPLICATIONS

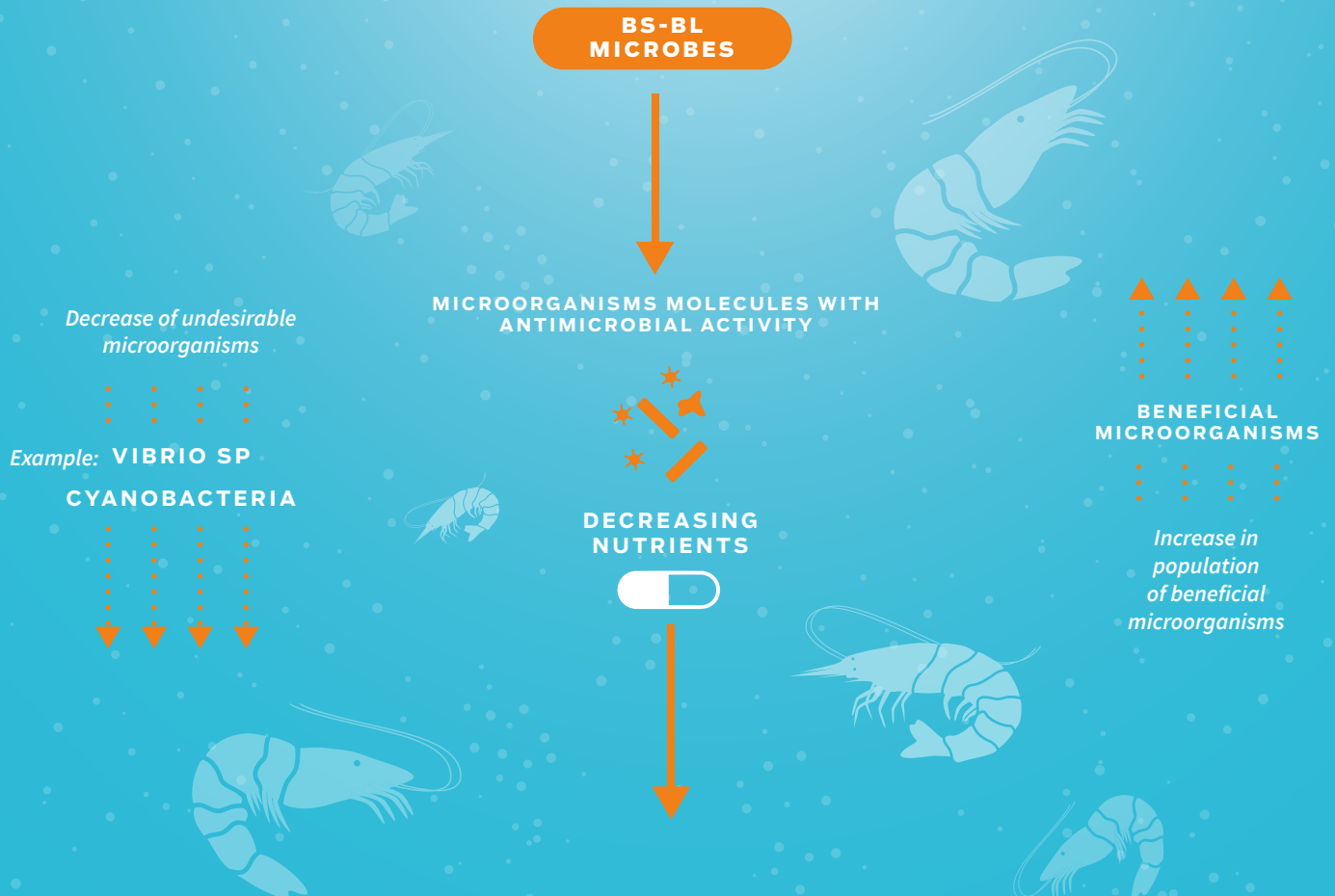


¿HOW DOES IT WORKS?

BS-BL™ bacteria produce beta-lactams which are precursors of one of the largest groups of antibiotics, cephalosporin. These antibiotic precursors are effective against many gram positive and gram negative pathogenic bacteria. Its main mode of operation against bacterial pathogens is to inhibit cell wall synthesis [1].

Open beta-lactam rings can undergo polymerization and form polymers which are peptide-like and biologically

active. These peptide-like polymers can mimic host defense peptides and stimulate the functions of T3 stem cells. In addition, **BS-BL™** microorganisms will work to competitively exclude microbial pathogens that are present by consuming certain nutrients such as nitrogen and phosphorus, this process competitively inhibits the microbial pathogens in the system while being treated with **BS-BL™** [2].



¿WHAT ARE THE BENEFITS?

- Produces antagonists to many bacterial pathogens.
- Naturally suppresses various species of Cyanobacteria.
- Promotes animal health.
- Helps remove nitrogen and phosphorous compounds from system water.
- Perfect for treating quarantine systems.
- Can be used as a continuous full time prophylactic water treatment in smaller doses.
- Contains only naturally occurring non-gmo bacteria.

¿HOW IT IS APPLIED?

DOSAGE

- The starting dose **BS-BL™** is 36 ppm.
- The weekly dose of **BS-BL™** should be applied 2 days after the initial dose.
- The total weekly dose is 36 ppm as well, but should be divided into at least 3 daily doses that would total 36 ppm per week. For example, 3 applications of 12 ppm can be made.
- Weekly doses should be maintained for six weeks.
- In some cases, **BS-BL™** may be used as a full-time prophylactic treatment using smaller doses. In these cases Liventia will work with the staff of the Aquarium and customize the treatment for the specific problem.

PREPARATION

- 1.** Wear suitable protective clothing and eye protection
- 2.** Use suitable measuring utensils such as graduated cups, graduated specimens and scales to dispense the required amount of product.
- 3.** Before opening the product, gently shake the container for 30 seconds.
- 4.** Application of the product should be performed away from skimmers or return lines in such a way that the product remains in the main system for the longest possible time before passing through filtering media.

COMPATIBILITY:



Do not mix the product with chemical or organic antimicrobial agents such as antibiotics, bactericides, bacteriostats and fungicides. Leave a 7-day window between applications.

STORAGE:

Store in cool dark place.

Do not expose the product to direct sunlight.



NOTE: The information provided herein should not be construed as an express or implied warranty, or implied in any legal liability, provided solely as a solicitation. You should read the label before using the product.

SUCCESS STORIES

DIAGRAM 1

Evaluation of the microbial decrease after the application of product in shrimp farms with a density of planting 25 organisms/m² and 106 days of culture in pond 4.

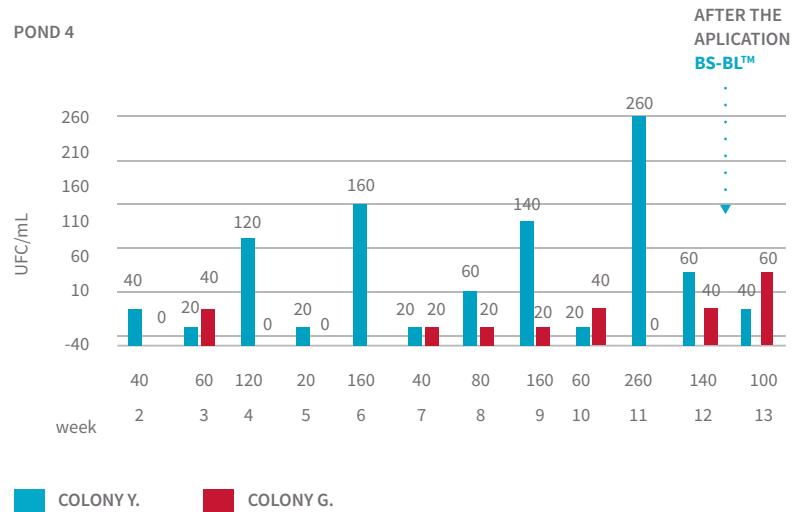


DIAGRAM 2

Evaluation of the microbial decrease after the application of product in shrimp farms with planting density 25 organisms/m² and 106 days of culture in pond 13.

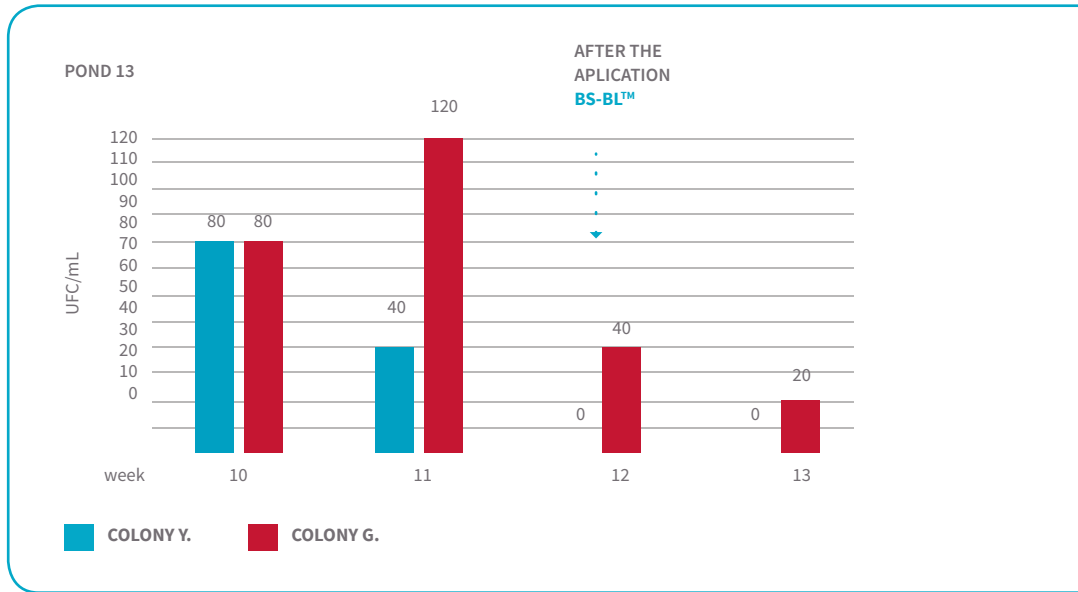
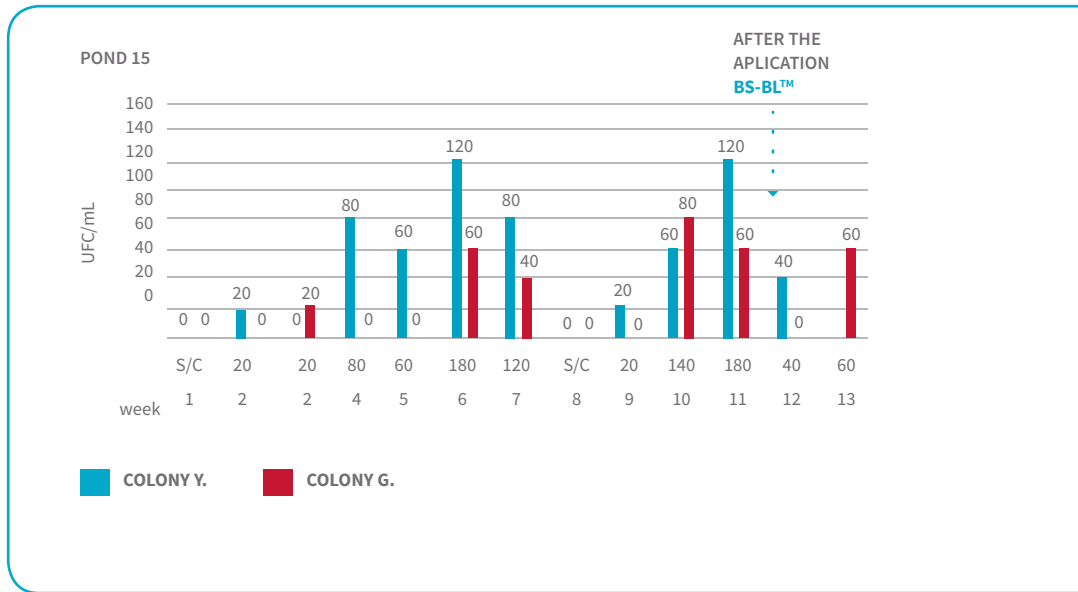


DIAGRAM 3

Evaluation of the microbial decrease after the application of product in shrimp farms with a density of seed 25 organisms/m² and 106 days of culture in pond 15.



BIBLIOGRAPHY

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[2] Shinji Mizumoto & Makoto Shoda, 2008. "Medium optimization of antifungal lipopeptide, iturin A, production by

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[3] Resultados acuícolas 2014-2015.



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