Bionetix® Newsletter

February 2022

Abstract Art . . . Or Bionetix® Enzymes in Action?

Have you been looking for a good way to show your clients how Bionetix® products work? These photos from a recent laboratory test are great visuals to show what microbial enzymatic activity looks like to the naked eye.

Each of these photos shows a different media: corn starch, cellulose, skim milk, and a lipid (fat). Each represents a different type of contaminant that can be found in a variety of waste treatment and cleanup applications.

In order to work, Bionetix® products have to produce enzymes that break down the target waste substance. For instance, if the product is going to be used to treat restaurant waste that naturally has excess grease in it, the formula will need to contain a microbial colony that is good at making lipase to digest lipids. A halo around the microbial colony shows good enzyme action.

HYGIEA2000™ contains non-pathogenic bacteria that, if working right, should show action for at least four enzymes: amylase, cellulase, protease, and lipase. A drop of HYGIEA2000™ was added to each petri dish along with a positive control (another good enzyme producer) and a negative control (poor enzyme producer) for comparison. HYGIEA2000™ produced a good halo in all four substances!

While this experiment is mainly for R&D and quality control, it is also a fun way to show the power of Bionetix® Technology to end users!

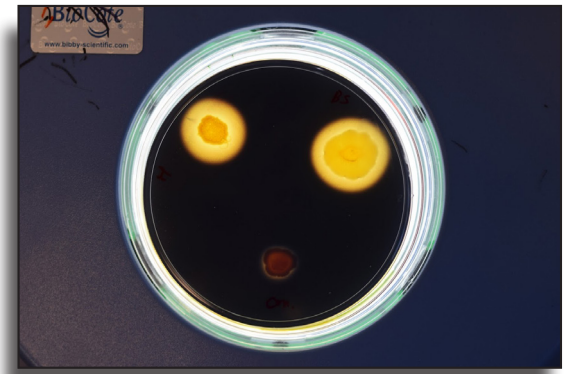
Media: Corn starch

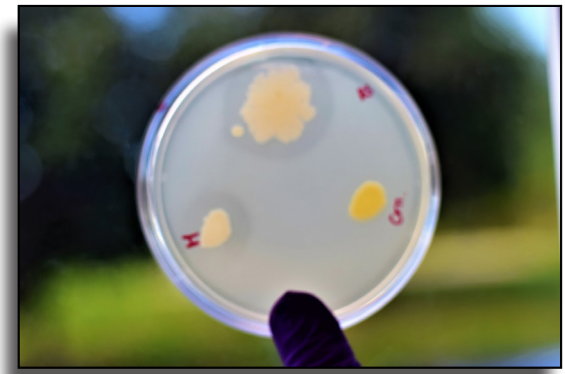
Top Left Circle: HYGIEA2000™

Top Right Circle: Positive control

Lower Circle: Negative control

Halo Color: Yellow/light orange





Media: Skim milk

Lower Left Circle: HYGIEA2000™

Top Circle: Positive control

Lower Right Circle: Negative control

Halo Color: Clear

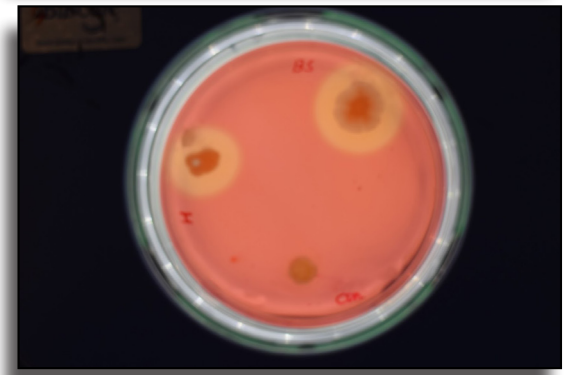
Media: Sodium carboxymethyl cellulose

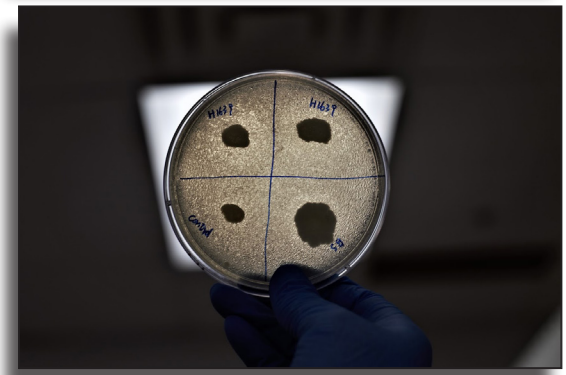
Top Left Circle: HYGIEA2000™

Top Right Circle: Positive control

Lower Circle: Negative control

Halo Color: Peach/light orange





Media: Glycerol tributyrin

Top Left Circle: HYGIEA2000™

Top Right Circle: HYGIEA2000™

Lower Right Circle: Positive control

Lower Left Circle: Negative control

Halo Color: Light compared to surrounding media

BIONETIX® NEWS

A Fresh Look to Our PDS Collection

We continue to update our Bionetix® PDSs for a fresh new look that makes it easy to share biotechnologies with your customers. Some of our most recent updates are as follows.

- **ORGANIC PLUS™** is a highly effective natural plant biostimulant and soil microbial enhancer. It contains high concentrations of humic and fulvic acids, marine plants, and micronutrients. It helps to increase crop yield by amending the soil with nutrients and microorganisms that enhance the natural fertility of the soil. It is also available as ORGANIC PLUS™ RH, a rhamnolipid version that provides added natural benefits to plants. Learn more: https://www.bionetix-international.com/take-the-natural-path-to-healthier-soil-and-plants/

- **BCP22™** is a blend of facultative anaerobic bacteria targeted specifically to digest FOG (fats, oils, greases). BCP22™ accelerates the biological degradation of high FOG wastewaters, making it ideal for food industry applications. This helps lower sludge production, reduces unpleasant odors, and improves treatment plant performance. Learn more: https://www.bionetix-international.com/press-release-clear-the-fog-with-bionetix-bcp22/

- Our **ECO-TRAP™** series includes the same technology in liquid, powder, and slow-release block form for maintenance of grease traps in the food industry. Too much fat buildup in restaurants, cafeterias, and other food-processing facilities can lead to bad smells, clogged drains, and even fines for excess BOD or FOG discharge. Our ECO-TRAP™ treatments help speed up FOG degradation and reduce bad odors and BOD through the activity of beneficial bacteria, nutrients, and stimulants. Learn more: https://www.bionetix-international.com/products/eco-trap/

- **BCP655™** is an exceptional alternative to nitrifiers to boost the efficiency of nitrogen and ammonia removal from wastewater lagoons and other biological treatment units even in cooler temperatures. It has at least five advantages:

Nitrifiers	BCP655™
Temperature dependent	Wider range of temperatures **NITROGEN REMOVAL IN COLD WEATHER**
Ammonia conversion is not coupled with BOD/COD reduction	Ammonia, nitrite, and nitrate digestion is coupled with BOD/COD reduction
Sensitive to toxic organic compounds	Consumes organic compounds **NO TOXICITY PROBLEMS**
Ammonia is oxidized in the presence of air	**LOWER OXYGEN REQUIREMENT**
Nitrite/nitrate needs to be denitrified to nitrogen gas	**DENITRIFYING BACTERIA**

Learn more: https://www.bionetix-international.com/press-release-skip-the-extra-nitrification-step-do-more-with-bcp655-bioconverter-for-industrial-and-municipal-lagoons/

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BIONETIX® NEWS

Quality Audit Time!

The beginning of 2022 meant ISO 9001 audit time once again! Like last year, the audit was conducted remotely with SGS auditor Michel Morin via Zoom. As usual, Bionetix® passed the quality management system audit on January 7th with no non-conformities. Special highlights of our quality successes for 2021 included 95% on-time shipments and a total of 40 new or improved products from our R&D process.

It is our desire to consistently achieve excellent service and timely delivery, improve our processes, and reach the highest level of quality and customer satisfaction in all aspects of our business. Maintaining Bionetix's ISO 9001:2015 quality management system with no non-conformities provides reassurance of our reliable service and helps us stay focused on continuous quality improvements for the good of the company and you our customers!


Certificat(e) CA08/4215

Bionetix International Corporation Inc.

21040, rue Daoust
Ste-Anne-de-Bellevue, QC H9X 4C7, Canada

ISO 9001:2015

Design, development and manufacturing of microbial products, natural hygiene solutions and environmental treatments.
Conception, développement et fabrication de produits microbiologiques, de solutions d'hygiène naturelle et de traitements environnementaux.

Ce certificat est valide du 1 mars 2020 au 1 mars 2023

This certificate is valid from 1 March 2020 until 1 March 2023

Issue 8. Certified since February 2008.

Dan Seal
Technical Accreditation Manager, Certification & Business Enhancement North America
Accredited Office/Bureau accrédité
SGS North America, Inc.
201 Route 17 North, Rutherford, NJ 07070, USA

Happy to Be Out and About Once Again

After two years of pandemic travel limitations, it was a pleasure to see Bionetix® customers face-to-face again at the ISSA North America convention!

Although overall traffic was slower than normal at the November 16th-18th conference in Las Vegas, the Bionetix® booth still attracted a good number of visitors. Our team was able to speak with a variety of cleaning industry professionals representing septic tank maintenance, restaurant and grease trap maintenance, wholesale chemicals, wastewater treatment, and cleaning product distribution.

These guests came looking for the ecologically friendly "green" cleaners, biologicals, and enzymatic treatments that make Bionetix® stand out from conventional chemicals thanks to underlying "probiotics" technology. They were also interested in how to secure these biological products in the most economical and/or convenient delivery systems, such as concentrates, tabs, and blocks.

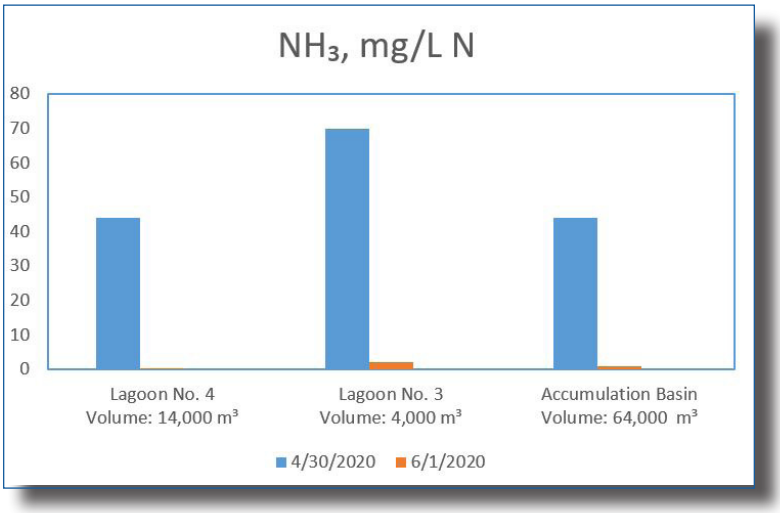
We are thankful for those who stopped by to talk "green" cleaning technologies and look forward to more opportunities to be back out and about talking about biological technologies in the future!

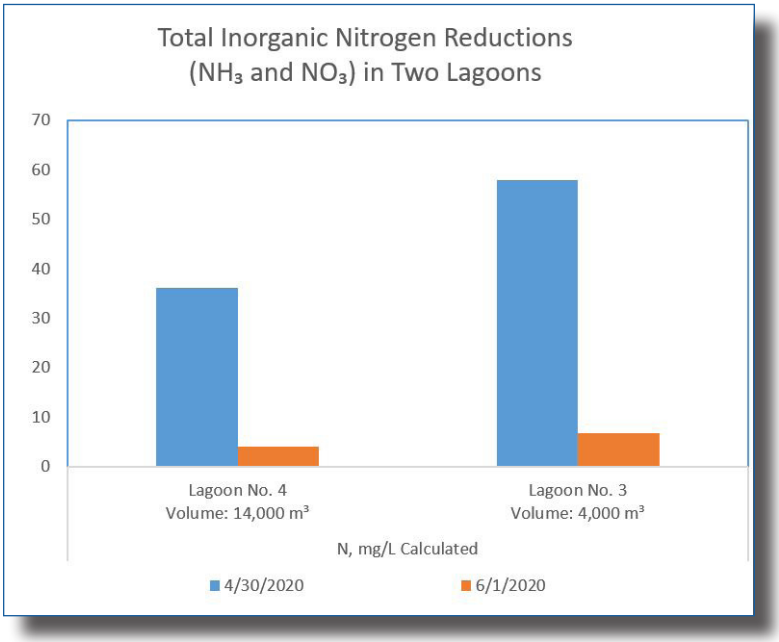
CASE HISTORIES

Case History #39: Ammonia Reduction in Pulp & Paper Wastewater

A landfill with wastewater lagoons containing high amounts of pulp and paper waste decided to test the effects of BCP655™ in the summer of 2020. During the month of May, BCP655™ was added to two lagoons and the accumulation basin that supplies the lagoons. The client saw an almost complete reduction of ammonia and an 89% reduction of inorganic nitrogen during the summer. The customer was able to meet effluent requirements and planned to buy BCP655™ again the next year.

Log in to get more details: https://www.bionetix-international.com/wp-content/uploads/Restricted_Case_Histories/ch039.pdf

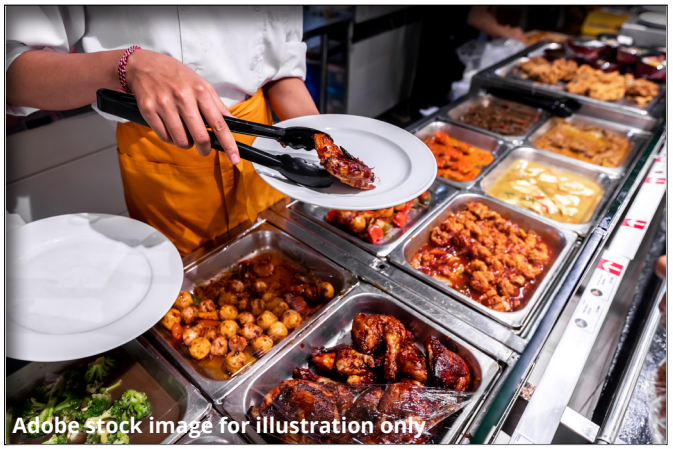




Case History #40: Reducing Shopping Center FOG & BOD

A large Asian city shopping center was experiencing high levels of FOG (fats, oils, greases) in its sewage coming from a food court area, offices, and luxury apartments. The problem was addressed by adding BCP22™ to the grease trap and balancing tank, BIO-BLOC22™ to the grease trap and food court sump pits, and BCP655™ to the anoxic and MBBR (Moving Bed BioReactor) tanks. Following treatment, FOG decreased by 25-35% and BOD fell from 640-980 mg/L to <50 mg/L, indicating that all biological treatments were successfully at work.

Log in to get more details: https://www.bionetix-international.com/wp-content/uploads/Restricted_Case_Histories/ch040.pdf



REGIONAL RESULTS

We are excited to share success stories from Guatemala and Tasmania as inspiring examples of what you may be able to do with Bionetix® Technology in your own corner of the world!

From Five Restaurants to 68!

Our Bionetix® distributor ECOTEC has reported outstanding results from using BCP22™ and ECO-DRAIN™ in restaurants in Guatemala! They currently supply this pair of Bionetix® biological treatments to help a total of 68 restaurants maintain grease traps and reduce and prevent bad smells and drainage clogging. Here's how they got started on this successful treatment plan.

In 2016, ECOTEC began using BCP22™ to help wastewater treatment plants that had problems with excess fats. They later marketed it to restaurants, starting with a two-month trial at five restaurants. After seeing positive results, they started recommending it for use to every restaurant client, starting with 30 restaurants and increasing to 68. One of these restaurants is a very famous restaurant that saw a big improvement in grease trap odor and clogging problems after using BCP22™.

Before using Bionetix® biologicals, restaurants had few options. They could try to get rid of bad smells by applying hot water or chemicals down the drain. One of them even did a trial with a competitor's biological product, but nothing worked as well as BCP22™. ECOTEC eventually added ECO-DRAIN™ to the treatment plan to extend the solution to restaurant drain systems. ECOTEC provides training to the restaurant staff and helpful guides to make regular application easy.

REGIONAL RESULTS

Early Results Show Manure Pit Transformation in Tasmania

Remarkable results are already evident in Bionetix® manure pit trials underway in Tasmania thanks to Australian distributor Allstate Technologies. The trials began at a challenging time, right in the middle of Southern Hemisphere winter amid low temps and significant rain. However, the distributor has already seen transformative results in a manure pit pond where BCP80™ A and HYGIEA2400™ FF were added.

"Despite the temperatures, the products have produced remarkable results transforming what was essentially a manure pit into a nutrient rich pond with a crust of approx. 300 mm thickness covered with lush grass. . ." Graeme Smith of Allstate Technologies stated. "It might be of interest to note the lushness of the grass was caused by the increase in fluid rich nutrients brought about by the introduction of the products and noted by the farmer."

Due to temperature swings, the distributor is still awaiting final test results but is excited about the potential these products are going to have for improving dairy effluent pond conditions. Stay tuned for updates!

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