2 BZT® Aquaculture

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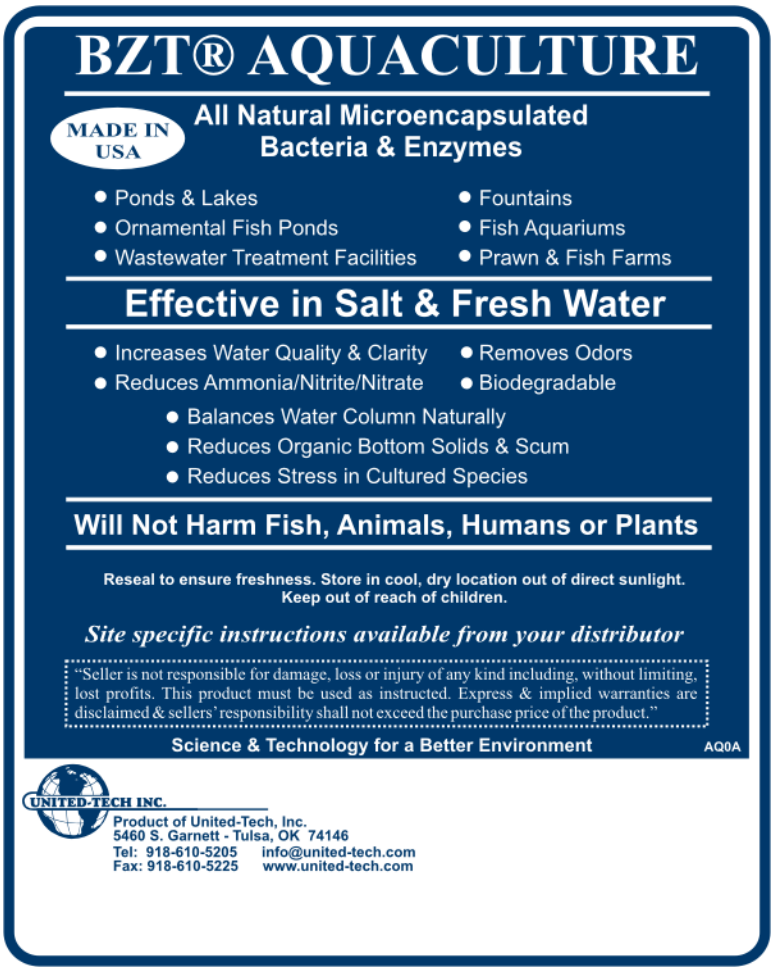
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2.1 Introduction to BZT® Aquaculture



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BZT® Aquaculture Applications & Benefits

Applications	Benefits
❑ Lakes ❑ Ponds ❑ Aquariums ❑ Koi Ponds ❑ Goldfish Ponds ❑ Zoos ❑ Water Parks ❑ Fountains ❑ Cooling Towers ❑ Fish Farms ❑ Shrimp Farms ❑ Fisheries ❑ Hatcheries ❑ Golf Courses ❑ Net Pen Systems ❑ Livestock Tanks ❑ Decorative Ponds ❑ Static Ponds ❑ Aerated Ponds ❑ Horse Farms ❑ Raceway Systems ❑ Municipal Wastewater Lagoons ❑ Industrial Wastewater Lagoons ❑ Cooling Towers ❑ Agricultural Lagoons ❑ Wildlife Sanctuaries ❑ Amusement Parks	❑ Easy To Use ❑ No Chemicals ❑ Emulsifies & Digests Organic Matter ❑ Removes Source of Odors ❑ Makes Filters more Efficient ❑ Reduces Bottom Solids ❑ Easier Clean Outs ❑ Reduces Labor Cost ❑ Environmentally Safe ❑ Non-Toxic ❑ All Natural Ingredients ❑ Saves Money ❑ Metabolizes Organic Materials ❑ GRAS Named and Listed ❑ AAFCO Named and Listed ❑ Reduces Suspended Solids ❑ Increases DO ❑ Reduces H2S ❑ Reduces Sludge & Solids ❑ Reduces Odors caused by organic buildup ❑ Increases Water Clarity ❑ Reduces Ammonia Levels ❑ Reduces BOD/COD/TSS ❑ Reduces Bulking & Foaming ❑ Reduces Phosphorus Levels ❑ Eliminates Fish Waste and Unused Food ❑ Minimizes Stress and Mortality ❑ Induces Molting ❑ Solids Reduction ❑ Reduces Nitrites / Nitrates

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Explaining BZT® Aquaculture

There is a clear need for a safe, effective means to reduce or eliminate organic waste build-up, toxic ammonia concentrations, and better water clarity in commercial aquaculture, aquariums, decorative fountains and pond situations. Although a variety of chemicals are currently available to reduce algae blooms, the algicides themselves are often highly toxic to aquatic life including fish. Many of these chemicals are not environmentally safe to use. In addition, although a variety of water filtration systems are currently available, all biological systems, regardless of the particular design, require frequent maintenance and upgrading in order for them to work efficiently. An inefficient filtration system is a serious problem for all aquaculture situations, since the filtration system can actually increase the amount of available nutrient and organic matter in the system, thereby compounding an already serious problem. A product such as **BZT® Aquaculture**, which can potentially extend the life of a filtration system, would mean lower maintenance costs and more effective optimization of water quality conditions.

The **BZT® Aquaculture** proprietary blend of all-natural biocultures and enzymes has been selected for the ability to effectively digest / degrade extremely heavy concentrations of organic mass within an aquatic system, reducing those hostile factors that have been determined to be detrimental to the health and life cycle of both fin and shell fish.

BZT® Aquaculture can successfully attack - degrade - liquefy fecal mass, undigested food and other organics that contribute to a build-up of ammonia and bottom solids. **BZT® Aquaculture** conditions the marine environment to an ecology close to nature's own. **BZT® Aquaculture** will colonize the tank / pond, multiply by a factor up to 1,000 times within a few hours, take away the nutrients and breakdown the organic loading, thus eliminating unsightly growth on walls and surfaces and liberating carbon dioxide for the oxygenating plants.

BZT® Aquaculture microbes are reliable scavengers that thrive on organic mass (waste). As supplied, they are in suspended animation (Micro-encapsulated), but are revived when added to the tank / pond water. Shortly thereafter, they begin to digest excreta and excess food, oxidize ammonia, reduce nitrites, nitrates and other N-Compounds, and reduce odors.

BZT® Aquaculture will effectively control the high accumulation of scum and bottom sludge (which produces methane and hydrogen sulfide also harmful to marine life).

By removing the heavy concentrations of organic pollutants almost as soon as they are formed, **BZT® Aquaculture** ensures a healthy environment for the fish

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stock, which, being under less stress from the N-containing substances, are more resistant to disease.

BZT® Aquaculture is a living system of aerobic and anaerobic microbial strains and enzymes including mixed Bacillus subtilis species, very selective proprietary microbial strains grown with the specific purpose to accelerate organic waste degradation even under anaerobic conditions in an aquatic environment. Proven effective in both salt and fresh water.

BZT® Aquaculture uses all-natural microorganisms that are non-toxic and ecologically acceptable.

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Commonly Asked Questions

1. **Will BZT® Aquaculture harm my grass if the treated water is used for irrigation?**

No. Unlike chemical algicides, BZT® Aquaculture's specialized bacteria and enzymes won't harm grass areas. BZT® Aquaculture actually benefits your grass by increasing the beneficial soil bacteria population.

2. **What causes algae blooms and how does BZT® Aquaculture help?**

Algae are mainly caused by excess nutrients in the water. Most ponds and lakes become overloaded with nutrients, nitrogen, phosphorus and organic carbon. These excess nutrients overcome the pond's ability to naturally clean itself up. This upset of nature's balance creates an environment for poor water quality and clarity. BZT® Aquaculture's microorganisms use nutrients in their cell mass and breakdown organic substances and greatly improve water quality and reduce bottom solids.

3. **What effect does BZT® Aquaculture have on Phosphorus?**

Phosphorus - or more properly put, excess phosphorus - has been identified as the single most important factor in the rapid growth of aquatic weeds. Microorganisms or bacteria are very simple organisms that have two basic functions: to metabolize/eat and reproduce. Bacteria require phosphorus for their necessary life functions.

BZT® Aquaculture's bacteria use the phosphorus in their cell mass, making it unavailable as a nutrient for aquatic weeds. The bacteria utilize phosphorus as a nutrient building block and the enzymes act as a biological catalyst. Phosphorus is a key component in the make up of DNA and RNA (the "building blocks" of life), which are necessary for bacterial cell replication.

4. **How does BZT® Aquaculture deal with Nitrogen?**

Molecular Nitrogen exists in gaseous form and makes up roughly 80% of the earth's atmosphere. In the water, nitrogen is found in several forms: ammonia, nitrites, and nitrates. Through a process known as nitrification and denitrification, the BZT® Aquaculture formula will break the complex forms of nitrogen down into molecular nitrogen, which is a gaseous form. This nitrogen will be degassed through the water, escaping to the surface and leaving the aquatic environment.

5. **How does BZT® Aquaculture deal with Carbon?**

The microorganisms digest carbon through the process of breaking down organic matter. The carbon is absorbed through the bacteria's cell membrane, where it combines with oxygen and is released as CO2. BZT® Aquaculture's enzymes break down the complex carbon bonds, making these

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materials easier to digest for the bacteria. This break down of organics leads to a reduction in total suspended solids and bottom solids.

6. How does BZT® Aquaculture remove odors?
Most pond odors are caused by hydrogen sulfide (rotten egg smell), sulfur, and ammonia. BZT® Aquaculture contains bacteria selected for the ability to out compete other bacteria which produce hydrogen sulfide, thereby eliminating odors caused by the hydrogen sulfide. Sulphur thrives in the bottom solids. The BZT® Aquaculture bacteria and enzyme formula works to break down the bottom solids where sulfur-producing bacteria thrive.

BZT® Aquaculture accelerates the nitrogen cycle, enhancing the rate at which ammonia is converted into nitrite. Ammonia is the principle cause of odors when high stocking densities or populations of fish are present. By insuring high populations of bacteria and enzymes, we can alleviate most common odor problems.

7. Will BZT® Aquaculture help remove pond bottom sludge?
BZT® Aquaculture's bacteria/enzyme formulation is designed to supply bacteria and enzymes that work on nutrient sources throughout the complete water column, including the pond bottom. Our product includes two strains of non-hydrogen sulfide producing bacteria specifically targeted for bottom solid digestion.

The bottom solids in any pond are one of the primary nutrient contributors to total nutrient loading. As the organic matter at the pond bottom decomposes, it releases nitrogen and phosphorus into the water column. BZT® Aquaculture contains microorganisms specifically selected for their ability to degrade bottom solids made up of organic matter.

8. What does BZT® Aquaculture do to improve water clarity?
BZT® Aquaculture can make dramatic improvements in clarity. When clarity is affected by floating organic matter, BZT® Aquaculture will be highly effective in a matter of 1 to 2 weeks. The bacteria's break down of carbon leads to a reduction in total suspended solids, which is evidenced by improved clarity.

BZT® Aquaculture will have some significant impact on clarity issues caused by minerals (turbidity, silt, iron, etc). BZT® Aquaculture will be effective in treating some of these cases.

9. Are there ponds or lakes where the product should not be used?
Any pond or lake which loses 45% or more of its liquid volume in any given day should not be considered for BZT® Aquaculture because of the high turnover rate.

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10. Will BZT® Aquaculture clear my pond?
BZT® Aquaculture is best used as a preventative, ongoing management tool. Its best to use BZT® Aquaculture before the problems occur. BZT® Aquaculture can be effective once the pond has experienced a problem; however, it can take several weeks before significant impact is noticed.

11. What about aeration?
BZT® Aquaculture, and all other bacterial products for that matter, depends upon adequate amounts of dissolved oxygen in the water. BZT® Aquaculture's microorganisms decomposition rates are 5 to 6 times faster in the presence of oxygen. This means that water, with aeration, will experience a higher and faster success rate.

12. Is BZT® Aquaculture bacteria safe to use?
BZT® Aquaculture's bacteria/enzyme strains are indigenous, non-pathogenic, and naturally occurring. They are completely safe and are FDA-GRAS listed as safe for humans, animals and plant life.

13. Does BZT® Aquaculture require EPA registration?
No. Because BZT® Aquaculture contains only naturally occurring, non-pathogenic, indigenous microorganisms, it is not regulated by FIFRA or the Federal Insecticides, Fungicides, and Rodenticides Act. As such, EPA registration is not required.

14. Are there permits or applicators licenses required to use BZT® Aquaculture?
No. Because BZT® Aquaculture is not regulated by FIFRA, licenses and permits are not required.

15. What is the BZT® Aquaculture shelf life?
The shelf life for BZT® Aquaculture is two years. When the seal on the packet is opened, it must be resealed and stored in an area of low humidity, out of direct sunlight.

16. What are the benefits of BZT® Aquaculture?

- **Eliminates odors** by breaking down the organic bottom solids where gas is created and released. Specialized bacteria and enzymes also break down ammonia before it causes a problem.
- **Irrigation pond safe**, BZT® Aquaculture will not damage grass like algicides. Your grass actually benefits from the bacteria applied during watering.
- **Reduces bottom solids**. BZT® Aquaculture bacteria and enzymes will accelerate the degradation of the dead organic matter on your pond bottom.

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- **Improves water clarity and quality** by digesting suspended organics in the water column and degrading ammonia, hydrogen sulfide, and other contaminates that are harmful to your ecosystem.
- **Eliminates pond scum** by digesting the primary food source (nitrogen and phosphorus), making it unavailable for aquatic weeds.
- **Stops aeration equipment fouling** due to organic build up.
- **No permits or licenses required** because BZT® Aquaculture is not an algicide. The bacteria only attack dead organic matter. Therefore, it does not fall under FIFRA review and does not require a permit license to apply.
- **Costs less than a fraction of a penny per gallon of water treated.**

17. **What can you expect after application?**
    - In 2 to 4 days there will be a reduction in nitrogen and phosphorus levels.
    - In 3 to 4 days there will be a reduction in odors.
    - In two weeks there should be a visible improvement in clarity and water quality.

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Parameters for Optimum Results

We have experienced very dramatic results using our BZT® Aquaculture product. However, we do want to remind you that when water temperatures drop below 50 degrees F [10ºC], BZT® Aquaculture microorganisms will slow down. Additionally, algae will also become inactive. Therefore, if you are in a climate where water temperatures drop below 50 degrees F [10ºC] for the winter months, wait until spring to start your BZT® Aquaculture treatments. In the spring, start BZT® Aquaculture treatments as soon as possible when the water temperatures rise above a consistent 50 degrees F [10ºC]. This will allow you to get a head start on water quality problems.

We have been asked about the best conditions for BZT® Aquaculture organisms. Following are some parameters for optimum results. The tests are all relatively inexpensive.

Parameters

Dissolved oxygen (D.O.) ppm or mg/l	2 or above
pH	6 to 9
Water temperature	50 - 140 degrees [10ºC - 60ºC]
Toxic metals	Less than 3 ppm
C/N/P ratio*	100/5/1 to 100/20/5

C/N/P = Carbon/Nitrogen/Phosphorus ratio

The minimum parameters to be evaluated are: pH, temperature, and dissolved oxygen. These will assure a successful aquaculture program for you and your customers.

For pH testing, you can purchase inexpensive test kits at any pool supplier or mass merchandiser. The cost is usually $5.00 or less. You can purchase temperature or pH meters for about $20, and Dissolved oxygen test kits are about $45. The equipment is a good investment, resulting in satisfied customers who will continue to purchase product from you.

BZT® Aquaculture will not have an effect on duckweed.

Thank you for choosing United-Tech, Inc. biological products.

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Yeast as Aquatic Lagoon "Probiotic"

It has been brought to our attention that a yeast product (species, viable cell count, and application rate unspecified) is being recommended by one of our "competitors" as a treatment for an aquatic lagoon. The product is being described as a "probiotic" that will stimulate the indigenous microbes in the lagoon to help keep the water free of waste build-up.

The actual definition of "probiotic" and the accepted way it is used scientifically and microbiologically is "the use of a live, beneficial microorganism as a feed or food additive to enhance (add to) the favorable microbe population in the intestines (animal or human)". The addition of a yeast product to aid the digestion of waste material in a lagoon could not and should not be defined as a "probiotic" application. This is not only a misuse of a scientific definition; it is also not a microbiologically valid treatment.

A reasonable rate of yeast application to the system would not enhance the digestive activity of any natural microbes in the lagoon. Yeast themselves are not very digestive, i. e. they do not have a lot of exoenzyme activity. They could not digest complex organic waste material. Yeast need their nutrients already in soluble form, i. e. already digested. Essentially, any live yeast added to the system would become microbial competition and actually suppress the natural microbe population by competing for the easily digestible nutrients. Only when the yeast cells die and break apart would they become food for and perhaps "stimulate" the other microbes. Of course, the dead yeast would also become part of the BOD load, not a desirable consequence.

On the other hand, truly digestive microbes, like those in the BZT® products, would provide both on-going waste digestion and stimulation for the indigenous microbial population. The digestive exoenzymes in the BZT® product and those released by the live BZT® microbes would provide soluble, readily digestible nutrients for all microbes. The waste products in the lagoon water would be constantly digested and the system would remain free of organic build up and high BOD readings. Adding a yeast product would not be able to do this.

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Stop Algae Now!

With a mild winter, and relatively warm water temperatures through normally colder months, the probability of a big algae bloom is extremely high. BZT® Aquaculture has been proven effective at greatly reducing organic components in the water.

It is much easier and faster to keep organic buildup from occurring than it is to eliminate it once it gets a good start. Playing catch-up will require more product, so the time to treat is fast approaching. We recommend treatment with BZT® Aquaculture as soon as the water temperatures maintain a temperature level of 50ºF [10ºC] and above. The formulation of microbes will begin to work on eliminating the cause of unsightly water problems, which in most cases is excessive nutrient loading and/or organic bottom solid buildup.

Make sure to get your orders in to United-Tech, Inc. as early as possible, because three week delivery time is necessary. You do not want to get behind on this year's organic loading.

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Ammonia Reduction Through Bioaugmentation

Wastewater treatment is one of the earliest large-scale applications of biotechnology. It differs from other industrial microbiological processes in that there is little or no control over the raw material and only moderate control over the operating conditions, yet the process is expected to produce a uniform finished product. The goals of the process normally include the removal of organic pollutants and nutrients (i.e. nitrogen) before discharge.

Removal of "nitrogenous compounds is critical" as excessive amounts of ammonia and nitrite/nitrate levels are detrimental to water quality. Ammonia exerts an oxygen demand in aquatic environments; 4.7 grams of oxygen are required to oxidize one gram of ammonia. Nitrite is toxic to marine life and can induce methemoglobinemia (a reduction in the oxygen-carrying capacity of the blood) in humans. These factors call for effective removal of nitrogen from the wastewater before it is discharged to natural water systems.

The conventional method of removing nitrogen from wastewater starts with oxidation of ammonia to nitrite/nitrate (nitrification) and ends with reduction of nitrite and nitrate to nitrogen gas (denitrification).

This conventional approach to ammonia removal only converts one form of nitrogen (ammonia) to another (nitrite or nitrate).

Nitrogen exists in wastewater in four different forms:

- Organic nitrogen (amino acids, proteins, purines, pyrimidines, and nucleic acids);
- Ammonia nitrogen (NH3-N);
- Nitrite nitrogen (NO2-N); and
- Nitrate nitrogen (NO3-N)

In an untreated wastewater sample, the major fraction is usually ammonia nitrogen and the organic nitrogen. These are oxidized to nitrite and then to nitrate in the environment.

The conventional biological nitrification, a two-step process, begins with ammonia being converted to nitrite by Nitrosomonas bacteria, followed by nitrite being oxidized to nitrate by Nitrobacter bacteria. These bacterial species are typical examples for the nitrification process. They are autotrophic in nature and use carbon dioxide as their cell carbon source.

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Because of the sensitivity of the process, relying on the ammonia nitrification step to convert ammonia to nitrate using the autotrophic bacteria has some problems.
The process requires long mean cell retention time (MCRT) of up to a few days and hence, huge storage requirements. The bacteria are very sensitive to cold temperatures as well as the presence of toxic chemicals in the system. The rate of nitrification slows down significantly during colder weather. Temperatures below 50º F [10ºC] can stop growth with 86º F [30ºC] being the optimum.

United-Tech, Inc.'s specially selected microorganisms consume a wide range of organic substances effectively. This results in an increased carbon uptake and consequently, an increased nutrient uptake, so their ammonia uptake as a nitrogen source (nutrient for growth) is higher than that for the naturally occurring microbial population in the waste water treatment system. They are capable of utilizing nitrite and nitrate for respiration (denitrification) as well as for growth as nitrogen sources.

The bacteria used in the United-Tech, Inc. products are heterotrophic and utilize organic carbon as their source for food and energy. First, the organic matter is oxidized by bacterial cells to obtain energy. Simultaneously, organic carbon is assimilated into the new cells using the energy produced with ammonia as a preferred nitrogen source.

Organic matter +O2 + nutrients (nitrogen, phosphorous) = new cells.

During this process the overall nitrogen removal occurs through three separate mechanisms.

1) The specially selected United-Tech, Inc. microorganisms are very efficient organic degraders and also have a wider organic substrate range (including many toxic compounds). Consequently, their carbon uptake is much higher than what is normally encountered in a wastewater treatment system. With a higher carbon uptake the nutrient requirement is also increased. Since ammonia is available as a nitrogen source, the ammonia levels are reduced in the treatment water. Further, with increased carbon uptake the BOD – as well as the chemical oxygen demand (COD) – discharge levels drop below the normal values, resulting in an increased operational efficiency.

2) United-Tech, Inc.'s microorganisms are considered some of the most active denitrifiers present on earth. They will utilize nitrite/nitrate for respiration if the dissolved oxygen drops below the critical level. Even in a completely mixed stirred system, low dissolved oxygen concentrations can be commonly found. This denitrification allows for a complete oxidation of organic substrate to CO2, and water.

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3) The third mechanism involves the use of nitrite and nitrate as nutrient sources by the United-Tech, Inc. bacteria during the assimilation process. Studies on these products have revealed that they are capable of utilizing nitrites as well as nitrate for growth purposes if ammonia is no longer available in the system.

Similar results have been seen in livestock operations, meat processing plants and in petroleum refinery applications. The specially selected strains of United-Tech, Inc.'s microorganisms are capable of efficient ammonia breakdown coupled with natural digestion of some toxic organic compounds, this provides industrial and municipal wastewater treatment plants a cost-effective solution to a common problem. Bioaugmentation with United-Tech, Inc. bacterial/enzyme formulas results in removal of nitrogen from the wastewater rather than a conversion of one form of nitrogen (e.g. ammonia) to another form (nitrite of nitrate). United-Tech products are safe to handle and non-pathogenic to humans.

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Commercial Fish Operations

The application rate for BZT® Aquaculture is determined by the nutrient load of the water. Intensive fish culturing and densely populated fish ponds will have higher levels of organic waste than a backyard pond with few fish, high oxygen levels, good circulation, etc. The fish farm condition will be vastly different from any other water source due to the number of variables related to the commercial fish operation.

It is important to realize that changing conditions such as fish growth and subsequent increase in feed level will increase the levels of organic waste in the system. An increase in the dosage rates of BZT® Aquaculture will be required to degrade these higher levels of waste matter at the same rate at which the previous levels had been degraded. When you notice that the maintenance rate is not keeping up with the organic wastes (odors, changes in water clarity, algae growth, etc.) increase the maintenance rate to weekly and the dosage rate in 20% increments until you have again obtained control of the pond. BZT® Aquaculture should not be used when fish are being treated with medication.

The living microorganisms in BZT® Aquaculture, like treating any complex system, require your monitoring and adjustments to guarantee a successful program of organic control and tap water quality.

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M.S.D.S. BZT® Aquaculture

Material Safety Data Sheet

United-Tech, Inc.
5460 S. Garnett
Tulsa, OK 74146

Date: March 15, 2004
Emergency #: (918) 610-5205

SECTION I IDENTIFICATION

Trade Name: BZT® AQUACULTURE

Chemical Family: .....Not applicable
Chemical Name and Synonyms:.....Bacterial/Enzyme Mixture
D.O.T Hazard Class:.....Not applicable
D.O.T. Label(s): .....Not applicable
D.O.T. Proper Shipping Name: .....Chemical not otherwise indexed (NOI), non hazardous

SECTION II HAZARDOUS INGREDIENTS

	% TLV		% TLV
Paints, Preservatives & Solvents	n/a	Alloys & Metallic Coatings	n/a
Pigments	n/a	Base Metal	n/a
Catalyst	n/a	Alloys	n/a
Vehicle	n/a	Metallic Coatings	n/a
Solvents	n/a	Fillter Metal	n/a
Additives	n/a	Other	n/a

SECTION III PHYSICAL DATA

State: .....Granular Powder
Appearance and odor: .....Light brown dairy-smelling
Boiling point: .....Not applicable
Vapor pressure (mmHg) : .....Not applicable
Vapor density (air =1) : .....Not applicable
Specific Gravity (H20=1) :.....Not applicable
% Volatile by Volume: .....Not applicable
Evaporation Rate: .....Not applicable
Solubility in Water: .....Very Soluble

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash point: .....Not applicable
Extinguishing Media:.....Not applicable
Special Fire Fighting Procedure:.....Not applicable
Unusual Fire and Explosion Hazards:.....None

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SECTION V HEALTH HAZARD DATA

Threshold Limit Value	None established
Effects of overexposure	None Known
Emergency and First Aid Procedures	Wash with plenty of soap and water. Use germicide to disinfect.

SECTION V1 REACTIVE DATA

Stability:	Stable under normal conditions
Incompatibility (Materials to avoid):	Moisture and heat
Hazardous decomposition products:	None
Hazardous Polymerization:	Will not occur

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken: Vacuum spilled material and use germicide to disinfect area. For large spills, contain and collect for reuse.

Waste disposal method:	According to local and state regulations. Autoclaving will destroy bacterial activity.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiratory protection:	None required under normal conditions of use. NIOSH-MSHA approved dust respirator recommended under conditions which will generate dust.
Ventilation:	Use adequate ventilation.
Protective gloves:	Rubber or latex gloves as needed.
Eye protection:	Safety glasses, goggles, or face shields as needed against dust.

SECTION IX SPECIAL PRECAUTIONS

Handling and Storage:	Store in cool, dry area in closed container.
Other precautions:	Do not get into eyes. Use adequate ventilation. Wash hands with soap and water after handling.

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of United-Tech, Inc.'s knowledge; however, United-Tech, Inc. makes no warranty whatsoever, expressed or implied, of merchantability or fitness for the particular purpose, regarding the accuracy of such data or the results to be obtained from the use thereof. United-Tech, Inc. assumes no responsibility for injury to recipient or to third persons or for any damage to any property and recipient assumes all such risks.

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Import Permit – BZT® Aquaculture – Hawaii

PQ-8b
5/87

Permit No. 02-03-O-M519

Date March 7, 2001

State of Hawaii
DEPARTMENT OF AGRICULTURE
Plant Quarantine Branch
701 Ilalo Street
Honolulu, Hawaii 96813-5524

IMPORT PERMIT

(Valid for various shipment(s) within one year(s) from date)

Permission is hereby granted to introduce the following, in accordance with Chapter 71, Rules of the Division of Plant Industry, Department of Agriculture, and the conditions listed below. *(Each lot must be inspected by a Plant Quarantine Inspector upon arrival before release.)*

Quantity	Commodity	Scientific Name
Various	BZT Aquaculture (a microbial product) (NO SUBSTITUTIONS ALLOWED)	

INSTRUCTION To Shipper: One copy of permit to accompany shipment to Hawaii.

Conditions or Object of Importation:

- ☐ To be kept in captivity at all times.
- ☐ For propagation
- ☒ Other For use according to the product label, see attached permit conditions.

Name and Address of Shipper: United-Tech, Inc., 5460 South Garnett, Tulsa, Oklahoma 74146.

Name and Address of Importer: Hanco Sales, Ltd., Albert S. Morgan, 182 Aikahi Loop, Kailua, Hawaii 96734. Phone: 254-1800

Raymond Haraguchi Jr.
CHIEF PLANT INSPECTOR

James L. Nakatani
CHAIRPERSON, BOARD OF AGRICULTURE

FOR OFFICIAL USE ONLY

PORT _____ ARRIVAL DATE _____ FLIGHT/SHIP _____

WAYBILL NO. _____ INSPECTION DATE/TIME _____ INSPECTOR _____

REMARKS _____

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Media Article – Enzyme helps return skating to Culler Lake

The Frederick News-Post

Vol. 90 No. 214 Frederick, Maryland 21705

Duck dung prohibits freezing

Enzyme Helps Return Skating to Culler Lake

By STEVE MILLER
News-Post Staff



Stuart Frazier, grounds maintenance specialist with the Frederick Department of Public Works, pours a mixture of BZT® Aquaculture and lake water back into Culler Lake in Baker Park recently with the assistance of John Fox of the Frederick City Parks and Recreation Commission.

The bygone days of ice skating on Baker Park's Culler Lake may return this winter if a new water treatment agent can change the lake from duck soup to crystal clear water.

For years, the startlingly high concentrations of duck waste and algae in the water has prevented the lake from freezing over. The amount of duck dung had lately reached hazardous levels, requiring expensive remedial measures to satisfy Environmental Protection Agency guidelines.

The city estimates that eight inches of duck dung covers the lakebed.

Enter treatment agent BZT® Aquaculture - a bacterial enzyme that eats up the waste and then excretes the benign leftovers of carbon dioxide, oxygen and water.

The city began using the product last year and despite a relatively warm winter, some freezing occurred on Lake Culler. This year's treatment should render the water so clean that a cold spell would freeze the lake solid and permit the return of ice skaters.

"That's what we're shooting for," said John Fox, a member of the Frederick Parks and Recreation Commission and a driving force behind the city's use of BZT® Aquaculture.

He's also a big fan of the product.

"Anyone who is pro-environment would fall in love with this stuff. It's better than the chemical stuff on the market," he said. "It gets rid of waste in a biodegradable form and you don't have to worry about any byproducts."

Mr. Fox and Stuart Frazier, a ground maintenance specialist for the city, took to the lake Friday afternoon in a small boat and poured the mixture into the water. The outing was part of the half-summer treatment schedule.

He expected to see results in as soon as two weeks. By then, he said, all the algae will have disappeared from the lake's fountain.

The treatment also saves the city money.

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Instead of the expensive practice of draining the lake, shoveling the sludge off the lakebed and disposing of it in accordance with EPA standards, the city can just pour in the enzyme mixture, sit back and let the natural process go to work.

The cost: less than a year of pool cleaning, said Mr. Fox.

"We are just trying to do our part to help the city save money, save costs in an environmentally friendly way," he said.

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Media Article – United-Tech Wants To Supply Whole Service Package

THE
Saigon Times
DAILY

N°1472 WEDNESDAY, JULY 18, 2001 VIETNAM'S ENGLISH-LANGUAGE BUSINESS DAILY VND 3,000

United-Tech wants to supply whole service package

By Huynh Kim

(SGT-CANTHO) "United-Tech wants a wide range of services to support the development of Vietnam's shrimp industry and not only to sell the product", United-Tech Representative told the Daily at a seminar on bio-technology in shrimp breeding at Can Tho University. The seminar was organized last Saturday.

United-Tech Representative said the U.S.-based company had cooperated with the Ministry of Science, Technology and Environment and would work with the Aquatic Product Science Institute of Can Tho University to train farmers in bio-technology applications. More training will be organized to keep farmers will abreast of the bio-tech farming, he told the seminar.

United-Tech Representative presented the results of using BZT to treat the water for shrimp raising to nearly 200 fisheries promoters, shrimp farmers in the Mekong Delta and experts from Can Tho University.

BZT, which is used to treat contaminated water, also helps raise the proportion of live shrimps from 15% to 96%, reduce the breeding time from 140 days to 92, and raise their weight to 35 grams each. This is the best solution for shrimp farmers to overcome the epidemics caused by polluted water, Hill said.

He said United-Tech's technology would help to achieve the target set by the country's fisheries sector to raise the shrimp output in Vietnam from 400,000 to 6000,000 tons by 2005.

United-Tech Representative also said that his product had been marketed across the country, including Khanh Hoa, Vung Tau and Bac Lieu provinces. He added that the company would offer a more competitive price for BZT, which farmers said was still preventively high. Pacific Ventures Inc. of the U.S., which has a rep office HCMC, advises United-Tech on marketing in Vietnam.

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Brochure – Introduction to Aquaculture

BZT® Aquaculture accelerates the nitrogen cycle, enhancing the rate at which ammonia is converted into nitrite. Ammonia is the principle cause of odors when high stocking densities or populations of fish are present. By insuring high populations of bacteria and enzymes we can alleviate most common odor problems.

7. **Will BZT® Aquaculture help remove pond bottom sludge?**

BZT® Aquaculture's bacteria/enzyme formulation is designed to supply bacteria and enzymes which work on nutrient sources throughout the complete water column, including the pond bottom. Our product includes two strains of non-hydrogen sulfide producing bacteria specifically targeted for bottom solid digestion.

The bottom solids in any pond is one of the primary nutrient contributors to total nutrient loading. As the organic matter at the pond bottom decomposes it releases nitrogen and phosphorus into the water column. **BZT® Aquaculture** contains microorganisms specifically selected for their ability to degrade bottom solids made up of organic matter.

8. **What does BZT® Aquaculture do to improve water clarity?**

BZT® Aquaculture can make dramatic improvements in clarity. When clarity is affected by floating organic matter, **BZT® Aquaculture** will be highly effective in a matter of 1 to 2 weeks. The bacteria's break down of carbon leads to a reduction in **total suspended solids** which is evidenced by improved clarity.

BZT® Aquaculture will have some significant impact on clarity issues caused by mineral (turbidity, silt, iron, etc). **BZT® Aquaculture** will be effective in treating some of these cases.

9. **Are there ponds or lakes where the product should not be used?**

Any pond or lake which looses 45% or more of it's liquid volume in any given day should not be considered **for BZT® Aquaculture** because of the high turnover rate.

10. **Will BZT® Aquaculture clear my pond?**

BZT® Aquaculture is best used as a preventative, ongoing management tool. Its best to use **BZT® Aquaculture** before problems occur. **BZT® Aquaculture** can be effective once the pond has experienced an algae bloom, however it can take several weeks before significant impact is noticed.

11. **What about aeration?**

BZT® Aquaculture and all other bacterial products for that matter depend upon adequate amounts of dissolved oxygen in the water. **BZT® Aquaculture's** microorganisms decomposition rates are 5 to 6 times faster in the presence of oxygen. This means that water, with aeration will experience a higher and faster success rate.

12. **Is BZT® Aquaculture bacteria safe to use?**

BZT® Aquaculture's bacteria/enzyme strains are indigenous, non-pathogenic, naturally occurring bacteria. They are completely safe and FDA GRAS listed as safe for humans, animals and plant life.

13. **Does BZT® Aquaculture require EPA registration?**

No. Because **BZT® Aquaculture** contains only naturally occurring, non-pathogenic, indigenous microorganisms it is not regulated by *FIFRA or the Federal Insecticides, Fungicides, and Rodenticides Act*. As such. EPA registration is not required.

14. **Are there permits or applicators licenses required to use BZT® Aquaculture?**

NO. Because **BZT® Aquaculture** is not regulated by FIFRA, licenses and permits are not required.

15. **What is the BZT® Aquaculture shelf life?**

The shelf life for **BZT® Aquaculture** is two years. When the seal on the packet is opened, it must be reclosed and stored in an area of low humidity, out of direct sunlight.

What can you expect after application?

- In 2 to 4 days there will be a reduction in nitrogen and phosphorus levels.
- In 3 to 4 days there will be a reduction in odors.

In two weeks there should be a visible improvement in clarity and water quality.

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UNITED-TECH INC.

INTRODUCTION TO AQUACULTURE

BENEFITS OF BZT® AQUACULTURE:

- **Eliminates Odors** by breaking down the organic bottom solids where gas is created and released. Specialized bacteria and enzymes also break down ammonia before it causes a problem.
- **Reduce Bottom Solids. BZT® Aquaculture** bacteria and enzymes will accelerate the degradation of the dead organic matter on your pond bottom.
- **Stops aeration equipment fouling** do to organic build up.
- **Irrigation Pond Safe, BZT® Aquaculture** will not damage grass like algaecides. Your grass actually benefits from the bacteria applied during watering.
- **Improves Water Clarity and Quality** by digesting suspended organic's in the water column and degrading ammonia, hydrogen sulfide, and other contaminates that are harmful to your ecosystem.
- **No Permits or Licenses Required** because **BZT® Aquaculture** is not an algaecide. The bacteria only attack dead organic matter. Therefore, it does not fall under FIFRA review and does not require a permit license to apply.
- **Costs less than a fraction of a penny per gallon of water treated.**

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AQUACULTURE

There is a clear need for a safe, effective means to reduce or eliminate organic waste build-up, toxic ammonia concentrations, and algae blooms in both commercial aquaculture, aquariums, decorative fountains and pond situations. Although a variety of chemicals are currently available to reduce algae blooms, the algaecides themselves are often highly toxic to aquatic life including fish. Many of these chemicals are not environmentally safe to use. In addition, although a variety of water filtration systems are currently available, all biological systems, regardless of the particular design, require frequent maintenance and upgrading in order for them to work efficiently. An inefficient filtration system is a serious problem for all aquaculture situations since the filtration system can actually increase the amount of available nutrient and organic matter in the system, thereby compounding an already serious problem. A product such as **BZT® Aquaculture** which can potentially extend the life of a filtration system, would mean lower maintenance costs and more effective optimization of water quality conditions.

The **BZT® Aquaculture** proprietary blend of all natural biocultures and enzymes have been selected for their ability to effectively digest / degrade extremely heavy concentrations of organic mass within an aquatic system. Reducing those hostile factors that have been determined to be detrimental to the health and life cycle of both fin and shell fish.

BZT® Aquaculture can successfully attack - degrade - liquefy fecal mass, undigested food and other organics that contribute to a build-up of ammonia and bottom solids. **BZT® Aquaculture** conditions the marine environment to an ecology close to nature's own. **BZT® Aquaculture** will colonize the tank / pond, multiply by a factor up to 1,000 times within a few hours, take away the nutrients that encourage organic buildup, thus eliminating unsightly growth on walls and surfaces, but liberates carbon dioxide for the oxygenating plants.

BZT® Aquaculture microbes are reliable scavengers that thrive on organic mass (waste). As supplied they are in suspended animation (Micro-encapsulated) but are revived when added to the tank / pond water. Shortly thereafter, they begin to digest excreta, excess food, oxidize ammonia, reduce nitrites, nitrates and other N-Compounds and reduce odors.

BZT® Aquaculture will effectively control the high accumulation of surface scum and bottom sludge (which produces methane and hydrogen sulfide also harmful to marine life).

By removing the heavy concentrations of organic pollutants, almost as soon as they are formed, **BZT® Aquaculture** ensures a healthy environment for the fish stock which, being under less stress from the N-containing substances, are more resistant to disease.

BZT® Aquaculture is a living system of aerobic and anaerobic microbial strains and enzymes including mixed Bacillus subtilis species, very selective proprietary microbial strains grown with the specific purpose to accelerate organic waste degradation even under anaerobic conditions in an aquatic environment. Proven effective in both salt and fresh water.

BZT® Aquaculture uses all natural microorganisms which are non-toxic and ecologically acceptable.

SOME COMMONLY ASKED QUESTIONS:

1. **Will BZT® Aquaculture harm my grass if the treated water is used for irrigation?**

No, unlike chemical algaecides **BZT® Aquaculture's** specialized bacteria and enzyme won't harm grass areas. **BZT® Aquaculture** actually benefits your grass by increasing the beneficial soil bacteria population.

2. **What causes algae blooms and how does BZT® Aquaculture help?**

Algae are mainly caused by excess nutrients in the water. Most ponds and lakes become overloaded with nutrients, nitrogen, phosphorus and organic carbon. These excess nutrients overcome the pond's ability to naturally clean itself up. This upset of natures balance creates an environment for organic buildup. **BZT® Aquaculture's** microorganisms use these excess nutrients in their cell mass and break down the organics in the system.

3. **What effect does BZT® Aquaculture have on Phosphorus?**



Phosphorus or more properly put, excess phosphorus, has been identified as the single most important factor in the rapid growth of algae and aquatic weeds. Microorganisms or bacteria are very simple organisms which have two basic functions; to metabolize/eat and reproduce. Bacteria require phosphorus for their necessary life functions.

BZT® Aquaculture's bacteria use an amount of the phosphorus in their cell mass making it unavailable as a nutrient. The bacteria utilize phosphorus as a nutrient building block and the enzymes act as a biological catalysts. Phosphorus is a key component in the make up of DNA and RNA (the "building blocks" of life) which are necessary for bacterial cell replication.

4. **How does BZT® Aquaculture deal with Nitrogen?**

Molecular Nitrogen exists in gaseous form and makes up roughly 80% of the earth's atmosphere. In the water, nitrogen is found in several forms; ammonia, nitrites, and nitrates. Through a process known as nitrification and denitrification, the **BZT® Aquaculture** formula will break the complex forms of nitrogen down into molecular nitrogen which is a gaseous form. This nitrogen will be degassed through the water, escaping to the surface and leaving the aquatic environment.

5. **How does BZT® Aquaculture deal with Carbon?**

The microorganisms digest carbon through the process of breaking down organic matter. The carbon is absorbed through the bacteria's cell membrane where it combines with oxygen and is released as CO_2 **. BZT® Aquaculture's** enzymes break down the complex carbon bonds making these materials easier to digest for the bacteria. This break down of organics leads to a reduction in total suspended solids and bottom solids.

6. **How does BZT® Aquaculture remove odors?**

Most pond odors are caused by hydrogen sulfide (rotten egg smell), sulfur, and ammonia. **BZT® Aquaculture** contains bacteria selected for their ability to out compete these bacteria which produce hydrogen sulfide thereby eliminating odors caused by the hydrogen sulfide. Sulfur thrives in the bottom solids. The **BZT® Aquaculture** bacteria and enzyme formula works to break down the bottom solids where sulfur producing bacteria thrive.

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Brochure – Improving Shrimp Production with BZT® Products

APPLICATION RATES

For application rates refer to the Prawn manual or contact your United-Tech, Inc. representative.

CRITICAL POND PARAMETERS

- pH: 7.5-8.5
- Dissolved Oxygen: 4-6 mg/l
- Temperature: 28-32º C [82.4ºF-89.6ºF]
- Salinity: 18-25 ppt
- Alkalinity: 80-200 ppm
- Hardness: 150-300 ppm

5. *Why Treat the Pond Bottom with BZT® Waste Digester?*

While **BZT® Aquaculture** is very effective at reducing the amount of organic bottom solids during the growing, a small amount of bottom solids typically remain after harvest. **BZT® Waste Digester** rapidly degrades these remaining wastes and allows the pond bottom to be dried more rapidly. **BZT® Waste Digester** also prevents these wastes from entering waterways, contaminating surrounding farms. Even lined ponds benefit from the use of **BZT® Waste Digester**. When the ponds are flushed after harvest, small amounts of waste remain trapped within the liner. Over time, these wastes accumulate to the point where they can cause water quality concerns and health problems to the shrimp.

6. *How Can the Use of BZT® Products Improve the Profitability of my Shrimp Farm?*

By improving the water quality, **BZT® Aquaculture** provides for higher survival rates and larger shrimp. Stocking rates may also be increased since **BZT® Aquaculture** is able to prevent the additional wastes from polluting the pond water. When it comes to harvest, more shrimp and bigger shrimp mean more money. Additionally, pond treatment using **BZT® Aquaculture** eliminates the need for costly chemicals and medications.

7. *Are BZT® Aquaculture* and BZT® Waste *Digester safe to use?*

The bacteria/enzyme strains are in the **BZT®** product line contain only indigenous, non-pathogenic, naturally occurring bacteria. The ingredients of these products are completely safe and listed as safe for humans, animals, and plant life by the United States Food & Drug Administration.

8. *What is the Shelf Life of BZT® Aquaculture and BZT® Waste Digester?*

The shelf life of both products is 2 years. When the package is opened, any unused product should be tightly closed in the package and stored away from direct sunlight or high humidity.

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Improving Shrimp Production with United-Tech BZT® Products

BENEFITS OF POND TREATMENT:

- **Improves Water Quality:** By digesting the suspended organic wastes in the water column and eliminating ammonia, hydrogen sulfide, and other contaminants that are harmful to shrimp.
- **Improves Survival & Growth:** By improving the water quality, the shrimp do not experience high levels of stress. Reduced stress leads to increased survival, growth, and disease resistance.
- **Eliminates Vibrio:** The specialized bacteria in BZT® Aquaculture eliminate Vibrio and other luminous bacteria by removing their food source.
- **Reduces Bottom Solids:** BZT® Aquaculture contains specific bacteria and enzymes to accelerate the breakdown of shrimp wastes and uneaten food, preventing the accumulation of toxic bottom solids.
- **Allows for Higher Stocking Rates:** Since organic wastes are removed in the pond, a higher density of PL can be stocked per m^2
- **Reduces Growing Cycle:** By improving the water quality, BZT® Aquaculture allows for more rapid growth and reduces the amount of time for the shrimp to reach market weight. This also reduces the amount of feed needed per cycle
- **Eliminates the Costs of Chemical Treatments & Medications:** BZT® Aquaculture improves the water quality without the need for chemical treatments. Clean water means healthier shrimp, so expensive medications are not necessary.
- **Increases Profits:** Pond treatment with BZT® Aquaculture results in increased survival, growth, and harvest weight, meaning greater profits per cycle.
- **Cost Effective:** Increased profits per cycle offset the cost of treatment by many times.

UNITED-TECH INC.

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SHRIMP CULTURE

High intensity shrimp farming has proven to be a profitable business in many parts of the world. However, there is a clear need to provide an effective solution to combat the problems that are inherent with these operations. The productivity of semi-intensive and intensive shrimp culture is limited in many instances by the quality of the pond water. Poor water quality results from the accumulation of dead shrimp, uneaten food, and shrimp waste materials. The higher the stocking density, the worse the water quality becomes. Additionally, the water used to fill the culture ponds may be contaminated itself, or contain high levels of *Vibrio* and other species of disease causing bacteria. Together, these problems can lead to high mortality rates, low harvest rates, and increased susceptibility to disease. To eliminate these concerns and ensure that the maximum harvest is obtained, it is important to make certain that the shrimp are living and growing in the cleanest environment possible, free of wastes and disease causing organisms. There are numerous chemicals available that are designed to improve the quality of water, however, many of these chemicals are very toxic to the delicate shrimp. The solution- All Natural **BZT® Aquaculture and BZT® Waste Digester.**

BZT® Aquaculture and **BZT® Waste Digester** provide a natural alternative to the use of dangerous or toxic chemicals to improve water quality. **BZT® Aquaculture** is designed to remove organic wastes that contribute to the pollution of growing ponds and limit the productivity of these ponds. **BZT® Waste Digester** is formulated to eliminate remaining bottom solids following harvest, resulting in reduced pond drying time and a cleaner pond effluent. Together, United-Tech's **BZT®** product line eliminates the problems that cause limited shrimp production

BZT® AQUACULTURE

The **BZT® Aquaculture** proprietary blend of all natural bacteria and enzymes have been selected for their ability to effectively digest & degrade extremely heavy concentrations of organic mass within an aquatic system. **BZT® Aquaculture** reduces the hostile factors that have been determined to be detrimental to the health and life cycle shrimp.

BZT® Aquaculture can successfully degrade fecal mass, uneaten food and other organics that contribute to the build-up of ammonia and bottom solids. **BZT® Aquaculture** conditions the marine environment to an ecology close to nature's own. **BZT® Aquaculture** will colonize the pond, multiply by a factor up to 1,000 times within a few hours, and greatly improve the quality of the pond water.

BZT® Aquaculture microbes are reliable scavengers that thrive on organic mass (waste). As supplied they are in suspended animation (Micro-encapsulated) but are revived when added to the tank / pond water. Shortly thereafter, they begin to digest excreta, excess food, oxidize ammonia, reduce nitrites, nitrates and other N-Compounds and reduce odors.

BZT® Aquaculture will effectively control the high accumulation of surface scum and bottom sludge (which produces methane and hydrogen sulfide, and are harmful to marine life). By removing the heavy concentrations of organic pollutants almost as soon as they are formed, **BZT® Aquaculture** ensures a healthy environment for the shrimp stock which, being under less stress from the N-containing substances, are more resistant to disease.

BZT® Aquaculture is a living system of aerobic and anaerobic microbial strains and enzymes that includes very selective proprietary microbial strains grown with the specific purpose to accelerate organic waste degradation even under anaerobic conditions in an aquatic environment. Proven effective in both salt and fresh water.

BZT® WASTE DIGESTER

BZT® Waste Digester contains a proprietary blend of all-natural bacteria and enzymes. The bacteria and enzymes in **BZT® Waste Digester** target the remaining organic bottom solids that are present on the pond bottom after harvest. Treatment with **BZT® Waste Digester** allows for more rapid drying of the pond bottom, allowing the pond to be put back into production much sooner. BZT® Waste Digester prevents contamination of local waterways by reducing the amount of organic materials that are released from the pond.

Both BZT® Aquaculture and BZT® Waste Digester contain only naturally occurring bacteria and enzymes that are environmentally friendly and harmless to humans, plants, and animals.

SOME COMMONLY ASKED QUESTIONS:

1. *How does BZT® Aquaculture improve shrimp survival?*

BZT® Aquaculture uses select bacteria and enzymes to eliminate the waste materials that lead to poor water quality. By improving the water quality, the shrimp experience less stress, and are more resistant to disease. Reducing stress and improving disease resistance directly result in higher survival rates.

2. *How does BZT® Aquaculture promote higher harvest weights?*

As the level of environmental stress on the shrimp is reduced, more of the shrimp's energy can be directed to growth. In ponds with poor water quality, a large percentage of the shrimp's energy must be used just to survive the polluted water and fight off disease.

3. *How does **BZT® Aquaculture** eliminate* Vibrio *from the pond?*

The bacteria in **BZT® Aquaculture** are more aggressive than *Vibrio* at using the organic pond wastes for a food source. Therefore, the Vibrio is literally starved to death and eliminated from the pond.

4. *How does BZT® Aquaculture remove Nitrogenous Wastes?*

In the water, nitrogen is found in several forms: ammonia, nitrites, and nitrates. Through a process known as nitrification and denitrification, the **BZT® Aquaculture** formula will break the complex forms of nitrogen down into molecular nitrogen, which is a gaseous form. This nitrogen will be degassed through the water, escaping to the surface and leaving the aquatic environment, and preventing the accumulation of toxic ammonia.

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Application Parameters

Special Instructions:
For the best performance of BZT® Aquaculture, drain and clean ponds, fountains, stock water tanks, and aquaria prior to treating. This makes it easier for the microorganisms in BZT® Aquaculture to establish control of your system.

- Aeration is important. Use aerator or stirrer to keep oxygen in the water. BZT® Aquaculture organisms can get started faster in the presence of oxygen.
- Mix proper amount of BZT® Aquaculture and water and apply evenly around edges. Don't pour all the mix in one spot.

Important:
In all cases, slurry the bacteria by using one (1) gallon [3.79L] of pond/tank water per pound [454g] of BZT® Aquaculture. The slurry may be poured around the edges of the ponds, sprayed over the surface, or added directly to a filter.

Please Note:
BZT® Aquaculture may initially exert a high oxygen demand on the system. While applying BZT® Aquaculture, monitor DO levels twice daily. Proper oxygen levels can be maintained by increasing aeration or flow-through during this period or by temporarily decreasing fish population prior to treatment. Decreased DO levels may last two to three days.

If algae is present, it could take several weeks for BZT® Aquaculture to biologically condition your aquarium/pond or you can treat with an approved algicide, wait 14 days and begin the BZT® Aquaculture treatments. Another alternative is to harvest and remove the existing algae; this is the preferred method as it permanently removes the nutrients in the existing algae from the pond/lake. After either of these actions, BZT® Aquaculture will keep the pond clean.

All bacteria, whether indigenous or commercially prepared, require certain basic nutritional needs and environmental conditions to grow, just as we as human beings have basic nutritional and environmental requirements. These conditions in turn dictate the efficiency of degrading the targeted substance and dosage rates.

The following physical & chemical parameters have been proven best for accelerated growth:

Dissolved Oxygen (DO): DO levels of at least 2 ppm (mg/l) are required. If an aeration system is used, this will normally fulfill this requirement. United-Tech, Inc. formulas contain facultative bacterial strains that will function with or without

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oxygen but will metabolize or biodegrade the targeted substance 5 to 7 times faster in the presence of oxygen.

pH Levels: A range of 6.0 to 9.0 are the minimum and maximum levels. Optimum growth will occur from 6.6 to 7.4.

Temperature: A range of 50ºF [10ºC] to 140ºF [60ºC] are the limiting ranges with 80ºF [26ºC] to 90ºF [32ºC] the optimum. Temperatures above 140ºF [60ºC] will cause cell death. Below 50ºF [10ºC], cell growth will slow and stop but this will not kill the cells.

Nitrogen: United-Tech's cultures require at least 5ppm nitrogen for growth. Doubling time will be most effective at a nitrogen content of about 20 ppm.

Salinity: United-Tech's cultures have been proven effective in both marine and fresh water.

STORE IN COOL, DRY LOCATION OUT OF DIRECT SUNLIGHT

Guidelines:

- System must have less than 40% turn over of water in a single day.
- BZT® Aquaculture will not work in rivers or streams.
- Seed with BZT® Aquaculture once in the beginning of the season in temperate areas and once every 6 months in tropical or year round climates.
- Algae growth and/or declining water quality are indicators that the bacterial activity has slowed and a maintenance dose is required. Some climatic conditions can occur which can impact the effectiveness of the maintenance dose such as periods of drought or prolonged periods of high temperatures (100ºF +) [37.7ºC +] during which times maintenance doses should be applied more frequently.
- If the pond receives high levels of nutrients or has a history of heavy algae blooms, double the application rates.
- BZT® Aquaculture will not provide magical results and is not a cure-all. There are some ponds where it will not be effective. But if all the environmental parameters are carefully followed, over 99% of the applications are successful.
- DO NOT use BZT® Aquaculture with algicides, as they will kill the bacteria.
- DO NOT use UV (ultra-violet irradiation) for 48 hours when BZT® Aquaculture is applied, as UV is harmful to bacteria. If required, UV can be used after 48 hours. However, it should be off again during the future BZT® additions as above.

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Technical Update on Duckweed and Watermeal

We have received questions about the use of BZT® Aquaculture to control duckweed and/or watermeal. These are not algae but are both free-floating plants that cannot be biologically controlled.

What follows is an excellent article on explaining the cause and treatment of both duckweed and watermeal.

If you have any further questions, don't hesitate to give us a call.

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Aquatic Plant Management



Control of Duckweed and Watermeal

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Duckweed and watermeal are free-floating plants that can totally cover the surface of a pond. In addition to making a pond unsightly and not very appealing for swimming (Fig. 1), thick growths of these plants can harm the fish population. A surface layer of duckweed or watermeal will prevent sunlight from reaching the deeper parts of the water column. This means that underwater plants and algae can no longer photosynthesize and produce oxygen. The lack of oxygen can greatly stress or even kill fish; typically duckweed or watermeal infested ponds lose good fishing quality over a period of years.



Figure 1. A handful of watermeal plants.

- **Identification**
- **Habitat**
- **Control**
  - ***Non-chemical***
  - ***Diquat***
  - ***Fluridone***
- **Cost Considerations**
- **Water Restrictions**

Identification

Individual **duckweed** plants are about an 1/8th to a 1/4 of an inch in width, so they are not very large. They are generally round in outline, with a single root hanging from each small plant (Fig. 2). **Watermeal** is much smaller compared to duckweed (Fig. 3); in fact, watermeal is the smallest flowering plant in existence. Watermeal plants look like tiny green seeds, each of which is less than 1/16th of an inch in width (Fig. 4). A handful of watermeal will feel gritty, like you are rubbing cornmeal (or grits) between your fingers.

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Figure 2. Duckweed. Note the root hanging from each plant.

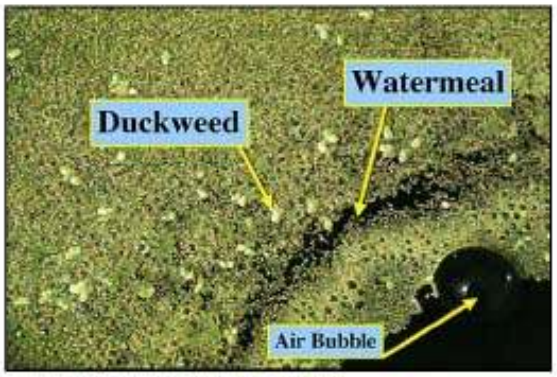


Figure 3. Duckweed and watermeal together (air bubble is included for size comparison).

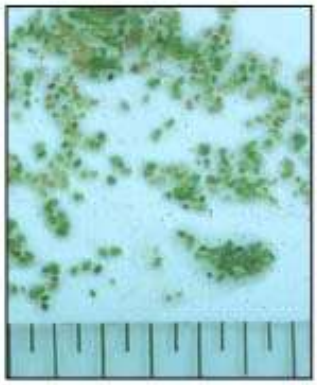


Figure 4. Watermeal. These plants do not have roots.



Figure 5. A duck with watermeal (arrow) clinging to its breast feathers.

Habitat

Both plants are typically found in ponds at the edge of or in woods. They are less frequently present in ponds located in open fields but can cause problems there, too. These plants require a lot of nutrients (nitrogen and phosphorus) to grow, so typically they are found in nutrient-rich environments such as in ponds that receive drainage from feed lots, leaky septic fields, and other similar situations. The association with trees suggests that leaf litter may play an important role in providing nutrients for growth. The bottom sediments of infested ponds are often very black and mucky. This organically rich material also can be a major source of nutrients.

Duckweed and watermeal can be spread easily from one pond to another by humans, or probably more frequently, by ducks and geese (Fig. 5). It is easy for these small plants to become lodged in the feathers of birds and then transported to a new home.

Both duckweed and watermeal tend to disappear from the pond surface in late fall. Why does this happen and where do the plants come from when they reappear the following spring? In the summer, the plants are photosynthesizing. This process produces food, which is stored as starch, and oxygen, which becomes trapped in the plant body and provides buoyancy. In the fall, the

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accumulated starch makes the plants heavier, and as photosynthesis slows down and less oxygen is produced, the plants lose buoyancy. They sink to the sediments where they overwinter, relying on stored starch for energy. In the spring, the plants start photosynthesizing again and the accumulated oxygen causes them to rise to the surface.

Given enough nutrients, duckweed and watermeal can reproduce prolifically to cover an entire pond within a few weeks after coming to the surface. All species can reproduce by budding, and in some cases, a new plant will be produced every 24 hours.

Control

Non-chemical

The control of duckweed is difficult and is even more difficult for watermeal. There are few options for effective control. Any obvious sources of nutrient inputs (lawn fertilizers, leaf litter, drainage from feed lots) should be eliminated. Some people use elaborate skimming devices to scoop the plants off the surface. When this is done, the plants must be disposed of away from the pond basin so that they do not wash back into the water. There are no effective biological controls. Grass carp feed on duckweed only weakly, and they do not feed on watermeal at all.

Draining a pond is a drastic measure, but sometimes it is the only alternative if complete renovation is desired. To be effective, the bottom sediments, which contain both plants and the nutrient-rich sediments, must be scraped out or dredged.

The most effective control methods are chemicals. Two chemicals are labeled for the control of these plants. The ways in which they are used vary greatly.

Diquat

Diquat, which is sold under the trade name of Reward®, is used at 1 gallon per surface acre. It is diluted in 50 to 150 gallons of water per acre and sprayed directly on the floating plants. A nonionic surfactant, which can be purchased at most places that sell Reward®, must be added to the Reward®/water solution as directed on the Reward label.

Reward® is a contact herbicide. That means it immediately causes the plant tissue it comes into contact with to turn brown. Because duckweed and watermeal plants are so small, a single Reward® treatment will seldom make contact with and kill all the plants. In addition, Reward® does not persist in the water; it is typically gone from the water column by 7 to 10 days after treatment. Therefore, any plants that survive the initial treatment will start to regrow in a few days. A typical scenario after treatment with Reward® is that many of the plants will turn brown and sink but the survivors will regrow and again cover the pond.

Several treatments of Reward® usually have to be made in a single season to keep a pond relatively free of duckweed or watermeal. Treatments should begin as soon as the plants start to grow in the spring or early summer in order to "keep ahead" of the growth. It is helpful to treat when the wind has pushed the plants to one end of the pond; the spray should be concentrated on the plants in that area. However, do not forget to spray small patches that may still be floating on other parts of the pond or washed up along the banks.

Multiple treatments of Reward® can successfully control duckweed; unfortunately, they seldom give effective control of watermeal.

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Fluridone

Fluridone, which is sold as Sonar* or as Avast!™, is used at 1 quart per surface acre for the control of duckweed. It is essential that the Sonar* AS (not Sonar* SRP) or the Avast!™ (not Avast!™ SRP) formulations be used. According to the guidelines for Sonar*, the keys to good control of duckweed are that the pond outflow be stopped or minimized for at least 30 days or longer, and that the chemical be applied in two treatments 10-14 days apart. Therefore, for a one acre pond, 1/2 quart is applied initially followed by the other 1/2 quart 10-14 days later. Treatment should be made as soon as the plants start to appear in the spring. The chemical should be applied fairly evenly over the pond surface and plants, but it is not essential to get as thorough a coverage of the plants as it is with diquat.

Fluridone is not a contact herbicide. If it can be held in the water for 30 days, it will effectively control the duckweed plants that are present. The effect is very slow, and may not be noticeable for 2 or even 3 months after treatment. Affected duckweed plants will turn almost pure white, as shown on the watermeal plants below (Fig. 6).



Figure 6. Three of these six watermeal plants have turned white following exposure to Sonar*.

The nice thing about fluridone is that when it works, it really works well. Retreatments are not necessary, and sometimes the control will last a second year (although it may be helpful to apply a pint of Sonar* or Avast!™ at the beginning of the second season to kill any plants that may have survived).

As a general rule, fluridone is effective on most watermeal treatment sites, but sometimes there is no effect. The reason for this is as yet unknown. According to Sonar* guidelines, the dose for watermeal should be 1.5 quarts per surface acre if the average depth is more than 5 feet. Again, it is critical that there be no outflow from the pond and that the treatment be split.

A possible (but expensive) strategy for successful watermeal control is to kill the surface plants with a treatment of Reward and follow that with the split fluridone treatment to kill the recovering plants.

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Cost Considerations

One of the main stumbling blocks to using fluridone is its cost. In 2001, the cost for a quart of Sonar* was approximately $482, compared to one gallon of Reward, which cost approximately $118 (prices may vary somewhat from distributor to distributor). Avast!™, which is a generic form of fluridone sold by Griffin L.L.C., was available for approximately $435. The SePRO company, which sells Sonar*, guarantees the results on duckweed if the application is made according to directions. Both companies offer a test (FasTEST for Sonar* and AVASTest for Avast!™) in which the concentration of fluridone in the water can be determined within 48 hours. This is important if the pond owner is not seeing results and suspects that the chemical is no longer at a high enough concentration to be effective. For further information on these tests, contact the product dealers.

In analyzing the benefits of diquat versus fluridone, the pond owner must make a choice between a cheaper product that may have to be used over and over again, versus a more expensive product that, when it works, will give excellent control and even may prevent new growth the following year.

Water Restrictions

Both Reward® and Sonar* or Avast!™ treated water can be used for swimming and fishing immediately after use (although it is always advisable to wait 24 hours after treatment). Reward® treated water must not be used for irrigation for 1 to 5 days after treatment; drinking water, 1 to 3 days; and livestock watering, 1 day. Water treated with Sonar* or Avast!™ must not be used for irrigation of trees, turf, or crops for 7 to 30 days after treatment (check the label for exact restrictions). These chemicals also should not be applied within 1/4 mile of any functioning potable water intake.

NOTE: Additional restrictions can be imposed by states. Check with local and state regulatory agencies before using these products.

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2.2 Application Instructions - BZT® Aquaculture

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Ponds, Fountains, Aquariums & Livestock Tanks

Ponds & Fountains
KOI, GOLDFISH, DECORATIVE

Initial treatment: Mix 1 tablespoon [14.2g] BZT® Aquaculture in ½ gallon [1.89L] of pond or fountain water for every 1,000 gallons [3,785L] of capacity.

Maintenance Rates: Mix 1 teaspoon [4.8g] BZT® Aquaculture in one pint [0.5L] of pond water every week per 1,000 gallons [3,785L] of capacity.

Note: For capacities over 8,000 gallons [30,283L] refer to Application Rates for Commercial Ponds.

Aquariums
Clean tank before starting treatment.

Initial Treatment: Mix 1 teaspoon [4.8g] BZT® Aquaculture in 1 cup [.24L] of aquarium water for every 20 gallons [75.7L] of tank capacity. Pour into clean, full tank.

Maintenance Rates: Every week add ½ teaspoon [2.4g] of BZT® Aquaculture mixed in 1 cup [.24L] of aquarium water for every 20 gallons [75.7L] of tank capacity.

Livestock Water Tanks
Clean tank before starting treatment.

Initial Treatment: Mix ½ teaspoon [2.4g] of BZT® Aquaculture with 1 pint [0.5L] water for every 150 gallons [567.8L] of tank capacity.

Maintenance Rates: Every two weeks mix ½ teaspoon [2.4g] BZT® Aquaculture in one pint [0.5L] water for every 150 gallons [567.8L] of tank capacity.

To figure tank/pond/fountain capacities:

Square or rectangular multiply length x width x average depth = cubic feet. Cubic feet x 7.4805 = gallons of capacity to treat. [length [m] x width [m] x average depth [m] = cubic meters [m^3] of capacity to treat.]

Round multiply diameter x diameter x average depth x 5.9 = gallons of capacity to treat. π r2 h1 = m3/ft3 (π = 3.14) (r = radius in m/ft) (h = height is m/ft)

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Commercial & Farm Pond Rates

1 Acre Foot equals approximately 325,850 gallons (1,233.34m^3)

Aerated Ponds

Initial treatment: For each acre-foot [1,233.34m^3] of volume of water, add six (6) pounds [2.73kg] of BZT® Aquaculture for the initial setup.

Maintenance Rates: For each acre-foot [1,233.34m^3] of volume of water, add one half (1/2) pound [227g] of BZT® Aquaculture every two weeks.

Static Ponds

Initial treatment: For each acre-foot [1,233.34m^3] of volume of water, add six (6) pounds [2.73kg] BZT® Aquaculture for the initial setup.

Maintenance Rates: For each acre-foot [1,233.34m^3] of volume of water, add one (1) pound [454g] BZT® Aquaculture every two weeks per acre-foot [1,233.34m^3].

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Commercial Aquaculture Rates

Net Pen Systems

Seed five (5) pounds [2.27kg] of BZT® Aquaculture, per acre foot [1,233.34m^3], every two weeks. Slurry the bacteria and inject by pipe to the bottom sludge.

Raceway Systems

Start with the very end pond/tank in the stream.

Day One

Six (6) pounds [2.73kg] BZT® Aquaculture per acre-foot [1,233.34m^3] seed rate.

Day Seven

One (1) pound per acre foot [454g/1,233.34m^3] maintenance rate.

Day fourteen and each week thereafter…

Continue to treat the first pond with the one (1) pound per acre foot [454g/1,233.34m^3] per week maintenance rate.

Day fourteen start treatment of next sequential upstream pond/tank while weekly adding the one (1) pound per acre foot [454g/1,233.34m^3] maintenance rates to the down stream ponds/tanks.

Continue weekly maintenance rate of previous ponds/tanks while adding one sequential pond every fourteen days until all ponds are being treated

When all ponds are inoculated, the total dose (which is one (1) pound per acre foot, [454g/1,233.34m^3] per week, per pond/tank) may be added at the head of the raceway.

Example of System With Four (4) Ponds/Tanks

Day	Week	Pond/Tank 1 (pounds per acre-foot) [454g/1,233.34m^3]	Pond/Tank 2 (pounds per acre-foot) [454g/1,233.34m^3]	Pond/Tank 3 (pounds per acre-foot) [454g/1,233.34m^3]	Pond/Tank 4 (pounds per acre-foot) [454g/1,233.34m^3]	TOTAL POUNDS [grams] PER WEEK PER ACRE-FOOT [1,233.34m^3] FOR 4 UNIT SYSTEM
1	1	6 [2.73kg]				6 [2.73kg]
7	2	1 [454g]				1 [454g]
14	3	1 [454g]	6 [2.73kg]			7 [3.18kg]
21	4	1 [454g]	1 [454g]			2 [908g]
28	5	1 [454g]	1 [454g]	6 [2.73kg]		8 [3.63kg]
35	6	1 [454g]	1 [454g]	1 [454g]		3 [1.36kg]
42	7	1 [454g]	1 [454g]	1 [454g]	6 [2.73kg]	9 [4.09kg]
49	8	1 [454g]	1 [454g]	1 [454g]	1 [454g]	4 [1.82kg]
56	9	1 [454g]	1 [454g]	1 [454g]	1 [454g]	4 [1.82kg]

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Cooling Towers

For Every 3,000 Gallons [11.36m³] of Capacity

Initial treatment: one (1) ounce [28.35g] of BZT® Aquaculture mixed in one half (½) gallon [1.9L] of warm water to inoculate every 3,000 gallons [11.36m³] in the system.

Maintenance Rates: one half (½) ounce [14.18g] of BZT® Aquaculture, for every 3,000 gallons [11.36m³] in the system, mixed in one half (½) gallon [1.9L] of warm water poured in every 2 to 3 weeks.

Note:
Initial treatment is done only once at the start of the program **or** if the cooling tower is emptied and restarted.

The maintenance rate is applied every 2 to 3 weeks depending on organic build-up.

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Commercial, Tilapia, Gamefish & Other Species

1 Acre Foot equals approximately 325,850 gallons (1233.34m^3)

Initial treatment: For each acre-foot [1233.34m^3] of volume of water, add six (6) pounds [2.73kg] of BZT® Aquaculture for the initial setup.

Maintenance Rates: For each acre-foot [1233.34m^3] of volume of water, add one half (1/2) pound [227g] of BZT® Aquaculture every week.

Note:
For shrimp and prawn treatment, refer to the Prawn Manual or contact your United-Tech, Inc. representative.

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Swimming Pools & Spas

We have found that BZT® Aquaculture, when used in swimming pools and spas, can provide clear water and a cleaner pool without the need for scrubbing off those ugly tile rings. The all-natural, completely safe bacteria and enzyme formula in BZT® Aquaculture gently and powerfully eliminates body oils and suntan oils to keep your water sparkling clean. The maintenance levels of BZT® Aquaculture help make your swimming pool filter more effective and can reduce the use of chlorine, bromine, and other chemicals, and is 100% natural and biodegradable. BZT® Aquaculture is completely safe for humans and animals.

- All Natural
- Eliminates ugly pool rings
- Breaks down body oils and suntan lotion oils
- Keeps water sparkling clean
- Rids pools/spas of scum accumulation
- Reduces organic buildup
- Makes pool filter more effective
- Can reduce the use of chlorine and bromine
- Biodegradable
- Safe for humans and animals
- Safe for all pools/spas/finishes including vinyl

Swimming Pool Application Rates:

Initial Treatment: 1 oz (28.35g) for every 3,000 gallons (11.356 m^3) of water

Maintenance Rate: 1 oz. (28.35g) every week per 15,000 gallons (56.78 m^3) of water.

Note: Mix BZT® Aquaculture at the rate of 1 oz. (28.35g) of BZT® Aquaculture in one gallon (3.78 l) container of Pool water and pour around the perimeter of the pool.

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Seasonal Pool Closing using BZT® Aquaculture

One application of BZT® Aquaculture right at pool closing time will break down organic materials in the pool water reducing cleaning and scrubbing next spring. When you open your pool in the spring, clear perfect water can be achieved with less than half the effort and time normally needed

- Quick & easy spring pool openings
- Reduce scrubbing & cleaning on spring opening
- Biodegradable
- Safe for humans and animals

Treatment Rate at Pool Closing:

1 oz (28.35g) for every 3,000 gallons (11.356 m^3) of water.

Note: Mix BZT® Aquaculture as outlined above [1oz. (28.35g) to 1 gallon (3.78L) of pool water] and pour around the perimeter of the pool or spa.

Spa Application Rates: (any size spa)

Initial Treatment: 1 oz. (28.35g) mixed in one gallon (3.78l) of spa water and pour around the perimeter of the spa.

Maintenance Rate: Every week mix ½ oz (14g) in one gallon (3.78l) of spa water and pour around the perimeter of the spa.

Spa Benefits:

- Best value for your money
- All Natural
- Eliminate unsightly spa rings
- Cleans and clarifies spa water
- Makes filters more effective
- Can reduce the use of chlorine or bromine
- Safe for all spa finishes including vinyl
- Easy to use

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3. COMMERCIAL & FARM POND RATES

1 Acre Foot equals approximately 325,850 gallons [1,233.34m³]

AERATED PONDS

- **Initial treatment**: For each acre-foot [1,233.34m³] of volume of water, add six (6) pounds [2.73kg] of BZT® Aquaculture for the initial setup.
- **Maintenance Rates**: For each acre-foot [1,233.34m³] of volume of water, add one half (1/2) pound [227g] of BZT® Aquaculture every two weeks.

STATIC PONDS

- **Initial treatment**: For each acre-foot [1,233.34m³] of volume of water, add six (6) pounds [2.73kg] of BZT® Aquaculture for the initial setup.
- **Maintenance Rates**: For each acre-foot [1,233.34m³] of volume of water, add one (1) pound [454g] BZT® Aquaculture every two weeks per acre-foot [1,233.34m³].

4. COMMERCIAL AQUACULTURE RATES

NET PEN SYSTEMS

Seed five (5) pounds [2.27kg] of BZT® Aquaculture, per acre-foot [1,233.34m³], every two weeks. Slurry the bacteria and inject by pipe to the bottom sludge.

RACEWAY SYSTEMS

Start with the very end pond/tank in the stream.

- Day One: Six (6) pounds [2.73kg] BZT® Aquaculture per acre-foot [1,233.34m³] seed rate.
- Day Seven: One (1) pound per acre-foot [454g/1,233.34m³] maintenance rate.
- Day Fourteen and each week thereafter: Continue to treat the first pond with the one (1) pound per acre-foot [454g/1,233.34m³] per week maintenance rate.

Day fourteen start treatment of next sequential upstream pond/tank while weekly adding the 1 pound per acre-foot [454g/1,233.34m³] maintenance rates to the down stream ponds/tanks.

- Continue weekly maintenance rate of previous ponds/tanks while adding one sequential pond every fourteen days until all ponds are being treated.
- When all ponds are inoculated, the total dose (which is one (1) pound per acre-foot [454g/1,233.34m³], per week, per pond/tank) may be added at the head of the raceway.

5. COOLING TOWERS

- **For Every 3,000 [11.36m³] Gallons of Capacity**
- **Initial seed treatment**: one (1) ounce [28.35g] of BZT® Aquaculture mixed in one-half (½) gallon [1.9L] of warm water to inoculate every 3,000 gallons [11.36m³] in the system.
- **Maintenance Rates**: one half (½) ounce [14.18g] of BZT® Aquaculture, for every 3,000 gallons [11.36m³] in the system, mixed in one half (½) gallon [1.9L] of warm water poured in every 2 to 3 weeks.
- Initial seed treatment is done only once at the start of the program **or** if the cooling tower is emptied and restarted.
- The maintenance rate is applied every 2 to 3 weeks depending on organic build-up.

6. COMMERCIAL, TILAPIA, GAMEFISH, & OTHER SPECIES

1 Acre Foot equals approximately 325,850 gallons [1,233.34m³]

- **Initial treatment**: For each acre-foot [1,233.34m³] of volume of water, add six (6) pounds [2.73kg] of BZT® Aquaculture for the initial setup.
- **Maintenance Rates**: For each acre-foot [1,233.34m³] of volume of water, add one half (1/2) pound [227g] of BZT® Aquaculture every week.

7. SHRIMP OR PRAWN

Contact your United-Tech Representative or United-Tech, Inc. for application rates.

UNITED-TECH INC.

Call for more information
on our complete line of products.
Fax (918) 610-5225
E-mail: info@united-tech.com
Visit our Website at: www.united-tech.com

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UNITED-TECH INC.

BZT®
AQUACULTURE

ALL NATURAL MICROENCAPSULATED BACTERIA & ENZYMES

FOR PONDS, FOUNTAINS, FISH AQUARIA, PRAWN & TILAPIA, & LIVESTOCK WATER TANKS

- **REDUCES ORGANIC BOTTOM SOLIDS & SCUM**
- **CUTS ODORS**
- **BIODEGRADABLE**

WILL NOT HARM HUMANS, ANIMALS, OR FISH

SAFE YET EFFECTIVE TO USE

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1. APPLICATION PARAMETERS

SPECIAL INSTRUCTIONS:
For the best performance of BZT® Aquaculture, drain and clean ponds, fountains, stock water tanks, and aquaria prior to treating. This makes it easier for the microorganisms in BZT® Aquaculture to establish control of your system.

- Aeration is important. Use aerator or stirrer to keep oxygen in the water. BZT® Aquaculture organisms can get started faster in the presence of oxygen.
- Mix proper amount of BZT® Aquaculture and water and apply evenly around edges. Don't pour all the mix in one spot.

IMPORTANT:
In all cases, slurry the bacteria by using one (1) gallon [3.79L] of pond/tank water per pound [454g] of BZT® Aquaculture culture. The slurry may be poured around the edges of the ponds, sprayed over the surface, or added directly to a filter.

PLEASE NOTE:

- BZT® Aquaculture may initially exert a high oxygen demand on the system. While applying BZT® Aquaculture, monitor DO levels twice daily. Proper oxygen levels can be maintained by increasing aeration or flow-through during this period or by temporarily decreasing fish population prior to treatment. Decreased DO levels may last two to three days.
- If algae is present it could take several weeks for BZT® Aquaculture to biologically condition your aquarium/pond or you can treat with an approved algicide, wait 14 days and begin the BZT® Aquaculture treatments. Another alternative is to harvest and remove the existing algae; this is the preferred method as it permanently removes the nutrients in the existing algae from the pond/lake. After either of these actions, BZT® Aquaculture will keep the organic buildup under control.
- All bacteria, whether indigenous or commercially prepared, require certain basic nutritional needs and environmental conditions to grow, just as we as human beings have basic nutritional and environmental requirements. These conditions in turn dictate the efficiency of degrading the targeted substance and dosage rates.

The following physical & chemical parameters have been proven best for accelerated growth:

DISSOLVED OXYGEN (DO): DO levels of at least 2 mg/L are required. If an aeration system is used this will normally fulfill this requirement. United-Tech, Inc. formulas contain facultative bacterial strains that will function with or without oxygen but will metabolize or biodegrade the targeted substance 5 to 7 times faster in the presence of oxygen.
pH LEVELS: A range of 6.0 to 9.0 is the minimum and maximum levels. Optimum growth will occur from 6.6 to 7.4.
TEMPERATURE: A range of 50ºF [10ºC] to 140ºF [60ºC] is the limiting range, with 80ºF [26°C] to 90ºF [32°C] being the optimum. Temperatures above 140ºF [60ºC] will cause cell death. Below 50ºF [10ºC] cell growth will slow and stop but this will not kill the cells.
NITROGEN: United-Tech's cultures require at least 5ppm nitrogen for growth. Doubling time will be most effective at a nitrogen content of about 20 ppm.
SALINITY: United-Tech's cultures have been proven effective in both marine and fresh water.

STORE IN COOL, DRY LOCATION OUT OF DIRECT SUNLIGHT

GUIDELINES

- System must have less than 40% turn over of water in a single day.
- BZT® Aquaculture will not work in rivers or streams.
- Seed with BZT® Aquaculture once in the beginning of the season in temperate areas and once every 6 months in tropical or year round climates.
- Declining water quality is an indicator that the bacterial activity has slowed and a maintenance dose is required. Some climatic conditions can occur which can impact the effectiveness of the maintenance dose such as periods of drought or prolonged periods of high temperatures (100ºF +) [37.7ºC] during which times maintenance doses should be applied more frequently.
- If the pond receives high levels of nutrients or has a history of heavy algae blooms double the application rates.
- BZT® Aquaculture will not provide magical results and is not a cure-all. There are some ponds where it will not be effective. But, if all the environmental parameters are carefully followed over 99% of the applications are successful.
- DO NOT use BZT® Aquaculture with algicides as they will kill the bacteria.
- DO NOT use UV (ultra-violet irradiation) for 48 hours when BZT® Aquaculture is applied, as UV is harmful to bacteria. If required, UV can be used after 48 hours. However, it should be off again during the future BZT® additions as above.

2. PONDS, FOUNTAINS, AQUARIUMS, LIVESTOCK TANKS

PONDS & FOUNTAINS
KOI, GOLDFISH, DECORATIVE

- **Initial treatment**: Mix 1 tablespoon [14.2g] BZT® Aquaculture in ½ gallon [1.89L] of pond or fountain water for every 1,000 gallons [3,785L] of capacity.
- **Maintenance Rates**: Mix 1 teaspoon [4.8g] BZT® Aquaculture in one pint [0.5L] of pond water every week per 1,000 gallons [3,785L] of capacity.
- **NOTE**: For capacities over 8,000 gallons [30,283L] refer to Application Rates for Commercial Ponds.

AQUARIUMS
Clean tank before starting treatment.

- **Initial Treatment**: Mix 1 teaspoon [4.8g] BZT® Aquaculture in 1 cup [.24L] of aquarium water for every 20 gallons [75.7L] of tank capacity. Pour into clean, full tank.
- **Maintenance Rates**: Every week add ½ teaspoon [2.4g] of BZT® Aquaculture mixed in 1 cup (.24L) of aquarium water for every 20 gallons [75.7L] of capacity.

LIVESTOCK WATER TANKS
Clean tank before starting treatment.

- **Initial Treatment**: Mix ½ teaspoon [2.4g] of BZT® Aquaculture with 1 pint [0.5L] water for every 150 gallons [567.8L] of tank capacity.
- **Maintenance Rates**: Every two weeks mix ½ teaspoon [2.4g] BZT® Aquaculture in one pint [0.5L] water for every 150 gallons [567.8L] of tank capacity.

To Figure tank/pond/fountain capacities:
Square or rectangular multiply length x width x average depth = cubic feet. Cubic feet x 7.4805 = gallons of capacity to treat.
Multiply length [m] x width [m] x average depth [m] = cubic meters.

Round multiply diameter x diameter x average depth x 5.9 = gallons of capacity to treat.
$\pi r^2 h_1 = m^3/ft^3$ ($\pi = 3.14$) (r = radius in m/ft) (h = height is m/ft)

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Version 013

2.3 Treatment Summaries - BZT® Aquaculture

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Improved Shrimp Production

Improved Shrimp Production from Ponds with Probiotics and Reservoir Systems: Philippine Experience



In the past few years, shrimp growers could hardly produce large volume of market size shrimps due to the occurrence of diseases primarily attributed to poor water quality.

Recently, however, Atty. David Tirol, a shrimp grower in Bohol, Philippines, harvested tiger shrimps (Penaeus monodon) with a total biomass of 3,700 kgs from one of his pond compartments with an area of 3,700 m2. Using a stocking density of 120,000 PLs (32.4 PLs per m2), he got an average body weight of 36.4 g and survival rate of 84.6% after 130 days culture period. With an average market price of PhP431.50 (US$ 8.63) per kg at the time of harvest sometime in February 2002, Atty. Tirol was able to obtain a gross sale of about PhP 1.98 million (US$ 39,600) and a net profit of about PhP1.5 million (US$30,000).

What are the protocols currently being used by Atty. Tirol that enables him to achieve such significant result and the succeeding more harvest of tiger shrimps in his ponds?

In addition to the usual pond preparation practices, Atty. Tirol uses BZT Waste Digester to eliminate organic bottom solids that accumulates on the pond bottom

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after harvest. During the culture period, a regular application of this product is also undertaken to prevent build-up of waste materials and toxic bottom solids. Likewise, he uses the BZT Aqua at regular frequency to eliminate Vibrio and other luminous bacteria present in the water column, and at the same time, to maintain good water quality throughout the culture period. No other chemicals were used except for these BZT products known to contain only naturally occurring bacteria and enzymes that are environment-friendly and harmless to humans, plants, and animals. He also maintains a reservoir system where the incoming water for the grow-out pond is temporarily stored for a few days before being used in the grow-out ponds.

Greater harvest of shrimps was also achieved by shrimp growers in other areas in the Philippines such as in Central Visayas, Western Visayas, and Northern Mindanao where BZT products are being applied following the recommended application rates and procedures.

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Zoo Ponds

Biological Treatment Summary

BZT® Aquaculture

The Situation

A major city zoo operated by the Zoological Society had extreme difficulty in maintaining clear pond water in their animal habitats. The staff of the zoo was required to drop and refill the ponds continuously through the summer months.

The Solution

United-Tech proposed an initial maintenance application and follow-up treatment program that consisted of the addition of BZT® Aquaculture into the ponds to eliminate the organic growth and re-establish the water clarity.

The Results

The zoo applied BZT® Aquaculture to the pond water in July and August, during the hottest days of the summer. The staff was amazed at how quickly BZT® Aquaculture completely cleared up the problem, and restored the water clarity in the habitat ponds. The Aquatic Curator of the zoo noted an incredible decrease in the need for pond maintenance, and the ponds no longer needed to be emptied and re-filled.

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Exotic Wildlife Sanctuary

Biological Treatment Summary

BZT® Aquaculture

The Situation

A wildlife sanctuary that raises lions, tigers, cougars and other exotic wildlife had been experiencing problems with algae growth and organic buildup in the very large water tanks used for the animals. The owner of the sanctuary was concerned about the sight and smell, build up of bottom solids, as well as the safety to the wildlife's health.

The Solution

United-Tech proposed an initial maintenance and follow-up treatment program that consisted of the addition of BZT® Aquaculture into the water tanks to eliminate the organics and odor problem, and reduce bottom solids.

The Results

Within five days of beginning United-Tech's treatment program, BZT® Aquaculture had reduced the organic load and eliminated the odors in the water tanks. After a short period of time, BZT® Aquaculture completely eliminated the organic load, and reduced the bottom solids in all the tanks. The wildlife sanctuary continues to use BZT® Aquaculture to keep the organic load and bottom solids under control.

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PGA Tour Championship Golf Course

Biological Treatment Summary

BZT® Aquaculture

The Situation

A major PGA Tour Championship golf course was experiencing algae problems in three of their water hazards on the course. These had traditionally been problems due to excessive nutrients from fertilizers used on the course running off into the ponds creating sufficient food to support excessive organic growth. The surface of the ponds were covered with an algae mat, the water was murky, and the ponds had strong odors.

The Solution

United-Tech proposed an initial maintenance and follow-up treatment program that consisted of the addition of BZT® Aquaculture into the ponds to eliminate the organic load and odor problem, and re-establish the water clarity.

The Results

After two weeks of beginning United-Tech's treatment program, BZT® Aquaculture improved the water clarity in the ponds to the highest levels in recent history. Organic build-up was brought under control, and the personnel at the golf course began to notice fish living in the ponds they did not know existed. Four months after treating with BZT® Aquaculture; the results amazed the staff at the course. The water had cleared so golf balls could be seen six to eight feet deep, and the staff discovered a decorative wall under the water that no one knew existed. Organic loading had been brought under control, and the unpleasant odors had disappeared.

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Small Ornamental Pond

Biological Treatment Summary

BZT® Aquaculture

The Situation

"I'm plagued with a problem with algae in my outdoor pond. I have heard that your product Aquaculture does a decent job of control algae. Is this true?"

The owner of this pond was experiencing continual organic loading problems in his outdoor pond. His water was "pea soup" and he could not see his fish. His 1,000-gallon pond contained goldfish and aquatic plants. The pond had a two-chamber sponge filter, UV-filter, and finally a bio-filter.

The Solution

United-Tech recommended the pond be treated with BZT Aquaculture and provided seed, intensive maintenance, and regular maintenance application rates. Intensive maintenance was applied until the organic load had subsided. The UV filter was turned off before the seed application and remained off for 24 hours.

The Results

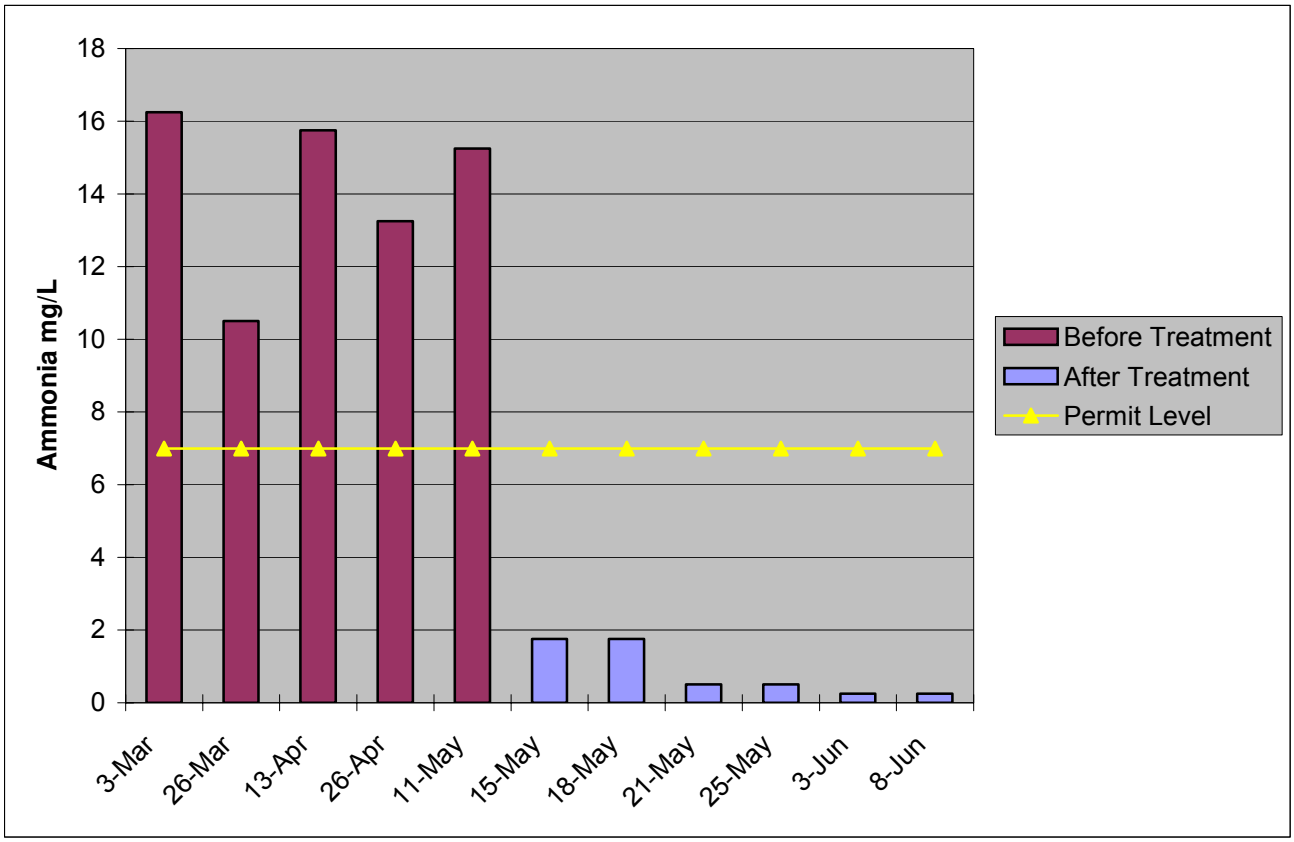
The customer noticed a "significant reduction in the sludge buildup in his biofilter. He thought this was "good" sludge, and became alarmed. This sludge was actually a buildup of dead organic matter and non-beneficial organisms that prevented his biofilter from performing adequately. In a few more days the pond problems were noticeably subsiding. After several weeks of maintenance, the pond cleared completely, resulting in a very satisfied customer.

"The pond is beautiful and clear thx to your product. The reviews were dead on."

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Ammonia Reduction – Sewer Plant

BZT® Aquaculture Treatment



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Ammonia Reduction – Poultry Rendering Plant

Biological Treatment Summary

BZT® Aquaculture

The Situation

A large poultry rendering plant had to control the ammonia levels in their Bardenpho waste water treatment plant. The flow rate was 400,000 gpd with 1.2 million gallon reator tanks. Ammonia levels were at 50mg/l due to a plant upset.

The Solution

United-Tech proposed a bioaugmentation program using BZT® Aquaculture. It was proposed to use an initial seed application followed by a lower maintenance dose applied every other day.

The Results

On February 11 the seed application was applied. On February 23 the ammonia reading was down to 8mg/l. On March 5 the ammonia level was at 5 mg/l, and on March 7 the ammonia level was at non detect (ND).

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Ammonia Reduction In Trickling Filter

Domestic Wastewater Treatment Facility

Biological Treatment Summary

BZT® Aquaculture

The Situation

A major municipality faced the problem of elevated levels of ammonia in its discharge water. In order to meet regulatory limits the facility had to divert its wastewater to a neighboring municipality at a very large expense.

The Solution

United-Tech, Inc., in conjunction with the facility, conducted an in-plant, full scale feasibility study to determine the effects of BZT® Aquaculture on ammonia reduction when applying BZT® Aquaculture in their trickling filters only.

The Results

The project data clearly demonstrated the ability of BZT® Aquaculture to reduce the ammonia levels when the trickling filters were treated. Due to United-Tech's treatment program the facility was able to treat a larger volume of water and keep the discharge water within regulatory permit levels.

The United-Tech treatment program will save the facility hundreds of thousands of dollars by the facilities ability to treat more wastewater on-site versus the costs of diverting the wastewater to another facility.

United-Tech, Inc. is currently working with the wastewater authority to begin a treatment program for the entire system.

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Ammonia/Nitrate/Nitrite Reduction - Nitrogen Plant

Biological Treatment Summary

BZT® Aquaculture

The Situation

A major nitrogen manufacturing plant wanted to control ammonia/nitrate/nitrite levels in a wastewater lagoon. The lagoon receives all plant wastewater and run off water from the facility. The lagoon is also utilized to receive the manufacturing plant upset water as well as storm water. Ammonia levels in this lagoon ran as high as 40mg/L.

The Solution

United-Tech proposed a bioaugmentation program that consisted of the addition of BZT® Aquaculture. It was proposed that an initial seed application be performed followed by regular weekly maintenance applications.

The Results

Ammonia/nitrate/nitrite levels dropped to all time lows. The levels were also noted to drop faster following plant upsets, rainfalls, etc. as compared to historical data.

The ammonia levels today run at non-detectable readings. The plant personnel now send upset water to the lagoon with “an all-new confidence”.

Because of the success of BZT® Aquaculture, the plant is currently expanding its ammonia/nitrate/nitrite reduction program utilizing BZT® Aquaculture to include other areas in the upcoming season.

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Nitrate Reduction through Bioaugmentation – Manufacturing

Biological Treatment Summary

BZT® Aquaculture

The Situation

A manufacturing plant was facing compliance problems with nitrate levels from their manufacturing process that were accumulating in four industrial settling ponds. Nitrate levels were well over the regulatory limit of 2.0 mg/L and the company was facing compliance fines.

The Solution

United-Tech proposed a bioaugmentation program that consisted of the addition of BZT® Aquaculture in the four ponds. It was proposed that a large initial seed application be performed followed by regular weekly maintenance applications to overcome and take biological control of the ponds.

The Results

Within two months, nitrate levels fell below regulatory limits with results below 1.5 mg/L. United-Tech worked with the company, developing a maintenance application program to keep levels within regulatory limits.

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Ammonia Reduction Through Bioaugmentation – Domestic Wastewater Lagoon

Biological Treatment Summary

BZT® Aquaculture

The Situation

A domestic wastewater lagoon was facing compliance problems with levels of ammonia leaving the lagoon. Discharge levels were averaging 14 mg/L with highs in the low 20's. Their discharge permit levels were 2.0. The lagoon was receiving notices of violation from the state's regulatory agency.

The Solution

United-Tech proposed a bioaugmentation program that consisted of the addition of BZT® Aquaculture to the wastewater lagoon. It was proposed that an initial seed application be performed followed by regular weekly maintenance applications.

The Results

Prior to the start of treatment, the ammonia level was 16.3 mg/L. Twenty-four (24) hours after the initial seed application, ammonia levels were measured to be below 2 mg/L.

Today, almost two years later, the ammonia levels in the lagoon are constantly below 1 mg/L.

The lagoon continues to follow a maintenance program utilizing BZT® Aquaculture with ammonia levels approaching non-detectable.

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Photos – Municipal Park Treatment 1

BZT® AQUACULTURE



Day 1



Day 6



Day 9

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Photos – Municipal Park Treatment 2





A municipal park was experiencing massive water quality problems in one of their decorative ponds. They tried various chemicals to clean it up, but with little results. Aware that the chemicals they were attempting to use may have been affecting the fish living in the pond, they began to look for an all-natural solution.

United-Tech, Inc. treated the decorative pond with BZT® Aquaculture. Within 10 days of treatment, the water quality had dramatically improved. The pond was restored to its naturally beautiful state, and guests were able to thoroughly appreciate the pond and fountain.

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Photos – Pond Treatment

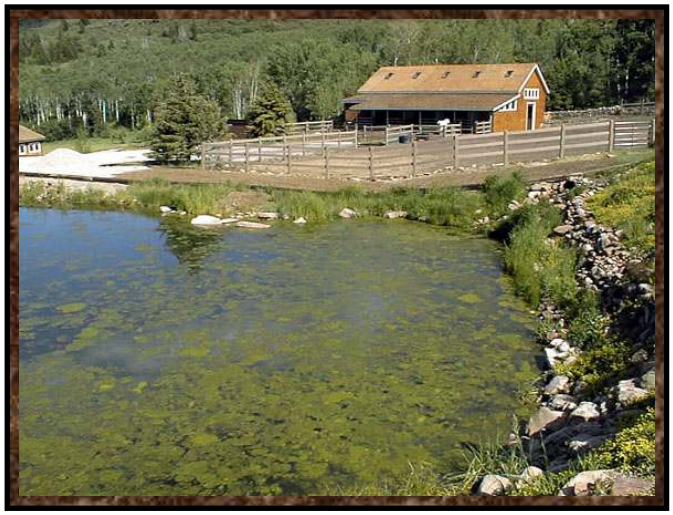
Before



After



Before



After



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Photos – Fish Pond Treatment

BZT® AQUACULTURE



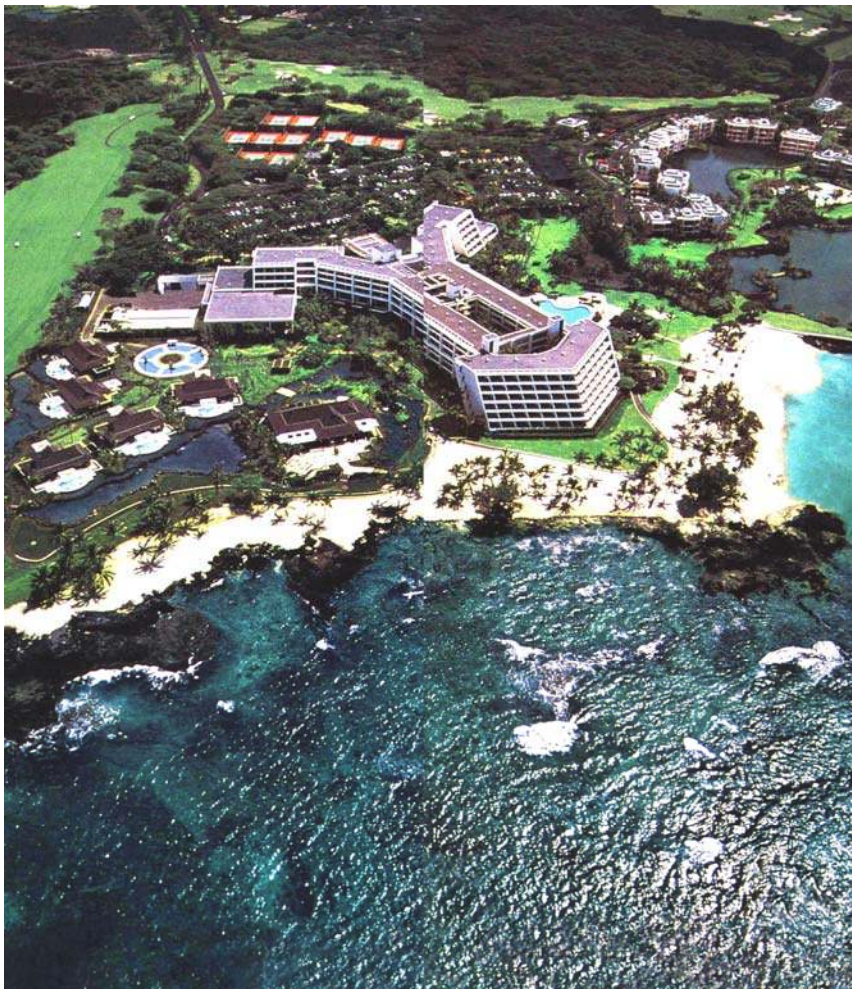


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Photos – World Class Hotel Treatment

World Class Hotel

Hotel & Bungalows - Hawaii



BZT® Aquaculture

This Hotel on the Kohala Coast on the Big Island of Hawaii rises from the midst of a 16th century lava flow.
This hotel was built with great respect for the land, and it has carefully preserved ancient Hawaiian fishponds.

Some of the impressive inhabitants of these historical natural ponds consist of Koi fish and the endangered Hawaiian green sea turtle. These ancient ponds are a mixture of fresh and salt water.

The ponds around the Hotel first began experiencing algae blooms 10 years ago, and the staff spent valuable hours and expense to manually remove the algae from the natural ponds in an attempt to remedy the situation.

Over time, the algae blooms took over the ponds, and the world-renowned Hotel Biologists were at "wits end" - until they contacted United-Tech, Inc. for an all-natural, environmentally friendly solution.

Within three weeks of the first treatment with BZT® Aquaculture, the Biologist Consultants on staff for the hotel stated the "massive algae growth" which had been a "nightmare", completely disappeared.

The Hotel continues to rely on BZT® Aquaculture to control the organic buildup and maintain water clarity in their natural and man-made ponds surrounding the hotel grounds.

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Testimonial - Professor Corre of University of Philippines

July 18, 2002

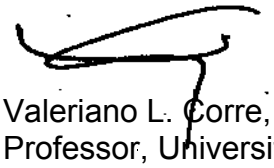
United-Tech, Inc./Bio-Form L.L.C.
5460 South Garnett
Tulsa, OK 74146

To Whom it May Concern;

I have had the opportunity to do research with and observe the performance of two of your company's products, BZT® Aquaculture and BZT® Waste Digester, in large commercial aquaculture operations. Both of these products performed exceptionally well in a recent 3-year study sponsored by the United Nations Development Project and the Department of Science and Technology (UNDP-DOST Gainex Project), in which I was a principal investigator, to address viable solutions to improve the sustainability of high density shrimp farming operations. In this study, BZT® Aquaculture and BZT® Waste Digester provided numerous benefits to the shrimp ponds, including reduced bottom solids, phytoplankton stability, and increase in growth, survival, and total production of shrimp.

My current research with these products has shown that they consistently perform well when used as directed, and may even be utilized to control Vibrio and other luminous bacteria.

Sincerely,



Valeriano L. Corre, Jr.
Professor, University of the Philippines in the Visayas
College of Fisheries and Ocean Sciences
5023 Miag-ao, Iloilo, Philippines

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Testimonial – Bass Pro Shops

January 22, 2001

United-Tech Inc.
5460 S. Garnett
Tulsa OK 74146

Dear United-Tech Inc.,

I am sending this letter in reference to our use of your product BZT Aquaculture. I would like to state for the record how pleased we have been with this product. The aquaculture has been very successful in maintaining low algae levels in our aquariums. We currently have 5 aquariums, 4 fresh water and 1 salt water, amounting to a total of 120,000 gallons of water to treat. We have found that the aquaculture is both economical and easy to use. I appreciate all the technical assistance I received to start using the product and in the maintenance of our aquariums.

Since the use of the aquaculture our water quality has stabilized. In the past we constantly battled red algae in our saltwater aquarium, however, since the use of aquaculture the algae colony has reduced markably and removal of the algae has become less problematic.

This is the only produce we now use in all our aquariums. I have been highly pleased with this product and the technical support supplied with it.

Debbi Crain
Supervisor for Live Exhibits
Bass Pro Shops

1935 S. Campbell ● Springfield, Missouri 65898 ● (417) 887-1915

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Testimonial – Aquarium Concepts

Aquarium Concepts
4850 N MacArthur Phone: (405)789-1666
Warr Acres, OK 73122 Fax : (405)789-8082
www.aquariumconcepts.org
fish.guy@aquariumconcepts.org

To: United-Tech, Inc.
From: Mr. Jerry Barrett
Date: August 11, 2005
Re: Benefits of Utilizing BZT® Aquaculture in the Pond & Aquarium Industry

To Whom It May Concern:

I represent a Retail Fish Specialty Shop with over 25 years of experience in the trade. For the last 9 years, we have recommended and used BZT® Aquaculture.

With its unmatched ability to reduce algae growth by removing waste solids and nitrogenous wastes in the water, BZT® Aquaculture has done wonders to increase the stability and clarity of our Aquaria and Ponds. By simply following the easy to understand instructions, we see a significant reduction in all forms of unwanted algae and an equally significant increase in the stability of the bio-system. Regular applications of BZT® Aquaculture are used on our "working" tanks to help insure the stability and clarity of our aquariums and to help protect the health of the fish by keeping their environment free of unwanted waste organics.

In Garden and Decorative Fish ponds, BZT® Aquaculture can completely remove green, brown and hair algae from the system. It also improves overall water quality by doing away with sludge, bottom solids, excess food and fish waste. Regular applications of BZT® Aquaculture increases biological filtration resulting in a more stable environment.

The best part about BZT® Aquaculture is that it is an all-natural product and is completely harmless to plants, animals, humans and fish.

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I have no hesitation in recommending BZT® Aquaculture to any serious Aquatic Hobbyist.

Sincerely



Jerry Barrett
Owner & Manager
Aquarium Conceps

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AQUARIUM CONCEPTS
4850 NORTH MAC ARTHUR
OKLAHOMA CITY, OK 73122

WED-FRI 10-7
SATURDAY 10-6
SUNDAY 12-6

OVER 22 YEARS OF SERVICE TO OKC

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Testimonial – Delta Rivers Nature Center

September 18, 2002

Ken Durrett
208 Magnolia
Siloam Springs, AR 72761

Dear Ken:

About 2 months ago I began using the BZT Aquaculture product as per you instructions. At that time I was having a lot of trouble maintaining clarity on a consistent basis in the 25,000 gallon outdoor aquarium exhibit that I manage here at the Governor Mike Huckabee Delta Rivers Nature Center in Pine Bluff, Arkansas.

The outdoor aquariums are fully exposed to sun the entire length of the day and subsequently their algae load is enormous. I have tried many products to enhance the capability of the inadequate filtration system. Often the water looked much like "pea soup". Adding a new ultra violet light to the system made a significant difference, but the filtration system was not capable of removing the bulk of the particulate matter from the system once the summer algae load commenced. The bag filters were fouled daily with heavy "sludge" and the water, though clearer from the U.V., was still very clouded. Patrons often asked if we were pumping in Arkansas River water because they were unable to see the aquariums clearly.

After the initial treatment with BZT, there was a dramatic clarity the following day. The clarity was not initially consistent until I was able to build the product up in the system over the period of about one month. During that time I added about one cup per week, treating the tanks aggressively. I have been subsequently able to reduce to a maintenance dose of 4 oz BZT, every 2 weeks.

Now, after two months of treatment, I have very clear water, despite facing the hottest and most intense days of summer weather that last year produced terrible visibility due to algae. The particulate matter in the water has been dramatically reduced. The bag filters now stay remarkably clean, even going 2 to three days between changes. The BZT seems to have reduced the algae load on the filtration system significantly and has thereby greatly reduced my workload!

I appreciate all the time and effort you and other staff members gave to help me achieve the water clarity I had been seeking, but not hitherto been able to find!

Sincerely,

April Layher
Aquatics Specialist

Pine Bluff Regional Park
P.O. BoxBO74
1400 Black Dog Road
Pine Bluff, Arkansas 71611
870-534-0011
870-534-4422 fax
deltarivers.com

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Testimonial – Safari Joe's Zoological Park

SAFARI JOE'S

ZOOLOGICAL PARK

To: United-Tech, Inc.
From: Mr. Joe Estes
Date: May 24, 2000
Re: BZT® Aquaculture & BZT® Waste Digester

To whom it may concern:

I have been raising lions, tigers, cougars, pythons, emus, and other various types and species of exotic wildlife for years. There is always one major problem that is very inherent with raising these types of animals…clean water! The area where our park is located is not spring fed, consequently we use large water tanks as a source for the animals. The big problem is the extreme build-up of algae. It forms in the watering tanks in just three to four days after the animals initially enter into it. It is unappealing as well as unsightly to the general public and myself, and probably isn't safe for the animals. Since I've started using BZT® Aquaculture, the algae problem has completely subsided! Even the organic debris that settles to the bottom of the tank is disappearing completely. I've also had prevalent problems with malodors being produced in cages containing my large, predatory cat species. By treating these cages as well as the smaller mammal and reptile cages with BZT® Waste Digester, I have been able to significantly reduce malodors to a non-existent stage. This product enables us to provide a cleaner and healthier environment for these and other exotic species of wildlife.
In all the years I've been involved in raising exotic species of wildlife, I have never heard of nor seen any all-natural biological products like these before. I highly recommend BZT® Aquaculture and BZT® Waste Digester to anyone that needs an all-natural, environmentally friendly and entirely safe biological product to combat algae, bottom solids, and wild animal malodors.

Sincerely,

Joe Estes
Owner & Operator
Safari Joe's Exotic Wildlife Sanctuary

SAVING THE WORLD ONE ANIMAL AT A TIME
18511 W. Hwy 33 Sapulpa, OK 74066
Office 918-224-WILD
Fax 918-224-8348

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Testimonial – Central Texas Horse Farm

February 2003

To Whom It May Concern:

I wanted to write and tell you about the success I've had with your product BZT Aquaculture. I own a horse farm in central Texas and have numerous water troughs for the horses. With the mild climate in this area, there is a considerable problem with algae forming and also sediment on the bottom of the tanks from dropped feed. Some of these troughs are made of metal, but nearly half are made of concrete set deep in the ground making cleaning very difficult. I started using Aquaculture and the tanks cleared up in a few days! I am really glad I found this product. It saves enormously in time and labor, as the tanks do not have to be drained and bleached weekly. I just want to let you know how much I appreciate BZT Aquaculture! Thank you for such a useful product!

Joan Cole, Owner
JC Quarter Horses

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