

AcquaLife™

ND Pharma & Biotech

Drinking & Biocidal Use



AcquaLife™

POULTRY FARMING

ADVANCING LIVESTOCK NUTRITION PERFORMANCE THRU STRUCTURED WATER TOP QUALITY



ACQUALIFE™
ND Pharma & Biotech

ACQUALIFE™ from ND Pharma & Biotech Co. is the Innovative, Cutting-Edge Water Transformation System and Technology that will totally change the world in its benefits to mankind and the environment. Acqualife™ is 100% Green, and Environmental-Friendly.

The use of All-Natural Alkaline Ionized Water in lieu of man-made chemical compounds will completely revolutionize the Poultry Industry by putting Pioneer Innovators in the vantage position of being the first in the industry to gain the competitive edge over other Poultry Farm Operators.

The result will be An Immediate Increase in Bottom-Line Profits.

The use of Acqualife™ is in its infancy in Poultry Farming, with ND Pharma & Biotech Co. and its operators, (licensees, franchise, distributors, agents, etc.) in the vantage position to educate and get its customers off to a head-start and increased profitability ahead of other competitor Poultry Farmers.

Alkaline Ionized Micro-Structured Water has hundreds of different applications in Poultry Farming, Livestock Farming, Fish Farming, Agriculture, Water Purification, Wastewater Remediation, Cleaning and Sanitizing, Mould Control and many other uses.

We will get centred within this brochure in the field of Poultry Farming.

With the ever-increasing ban on the use of man-made toxic chemicals that pollute the environment and the atmosphere, Soil and Water Supplies, ND Pharma & Biotech possesses the only viable alternative which is the use of Alkaline Ionized Water Solutions that are 100% Totally-Green, Environmentally-Friendly, Non-Toxic, Bio-Degradable Products.

ND Pharma & Biotech Co. is a leading European Pharmaceutical and Biochemical Company and industry solutions provider within the fields of green chemistry and natural sustainable development. Company operates thru commercial and industrial partners almost in any part of the planet.

Applications

Applications of Acqualife TM and Acqualife TM Water Transformation System in Poultry Farming Include:

- Elimination of the requirement to purchase and store Toxic, Man-Made Sanitizing and Disinfecting Chemicals. In lieu thereof, Acqualife TM Natural Sterilization Composition may be Generated On-Site As-Needed.
- General Sanitizing & Disinfection using Full Strength of Acqualife TM. Surface Cleaning and Equipment Sanitizing. Spraying & Fog Misting to Kill Bacteria, Viruses, Mould, Spores & Fungi.* (Within this application a 1-5% solution must be prepared, with hot water (+/-40°C) and applied wearing protection gloves and mask is recommended).
- Control of De-Feathering by Fog Misting with Full Strength Acqualife TM to destroy Aerobic and Anaerobic Bacteria.
- Disinfection of feed to kill microbial pathogens that occur in most poultry feeds.
- Better digestion and feed conversion ratio.
- Prevention of infectious diseases.
- Reduced mortality rate.
- Preparation of Drinking Alkaline Ionized Water as Made-it-Simple just dropping 5-10 drops/litre of regular and/or Tap Water, with the performance in the range of 1 Lt of Acqualife TM per 3.000 to 4.000 litres of Water.

It is important to keep the waterbeds and tubes clean since the water can become polluted with airborne, microbial organisms, contaminated feed, manure, mucus and saliva from the poultry.

Since diseases such as E.coli, Salmonella & Fowl Cholera can be transmitted via the drinking water, it is important to clean and disinfect the waterbeds and other dispositive on a daily basis with Acqualife TM Disinfection Dilution (1-5% solution in Clean Hot Water).

General Sanitizing

The use of Acqualife TM in Poultry Farming begins with General Sanitizing of the Poultry sheds by fogging and spraying the building interior to encapsulate and kill Bacteria and Other Microbial Pathogens in the air and on surface areas.

Acqualife TM (1-5% solution) disinfects, removes odours, binds dust and improves the quality of breathing air for both poultry and humans.

Litter and manure must be sprayed at least once a day with Acqualife TM for Biocidal Use (1-5% solution in Hot Water to kill microbial pathogens and an effective control of odour.





Drinking Water Transformation

For a good growth and optimal health, clean water is essential in poultry farming. But over all standards of clean water alkaline ionized Water has demonstrated a number of benefits in terms of growth, quality and control of productions. By continuously dosing Acqualife™ into the drinking water, a number of harmful bacteria, viruses, spores, moulds and other fungi are eliminated. A regular use of Acqualife™ within a sanitized and disinfected network of feed premises, will prevent the growing of certain dangerous and harmful bacteria and viruses.

With the regular use of Acqualife 1-5% Solution Bio-Film is also removed, with prevention of re-growth.

Based on the amount of biological contamination in the source water, treatment by continuously injecting 2-3% Acqualife for Biocide into the water supply line is normally sufficient to kill all the Microbial Pathogens in the drinking water, based on 500 to 700 parts per million [ppm] of Free Available Electrolytic Mineral Salts and substances within the water. The characteristics of the drinking water are not changed.

Adding Acqualife™ (0.05 -0.10%) to drinking water once premises and conductions are disinfected will improve animal health and increases weight gain.

Food Preservation

About 80% of the poultry diet is grains that are high in carbohydrates [Corn, Wheat, Rice, Barley, Oats etc.] plus Soy Beans that are high in protein, which may be grown by the Poultry Farmer, or commercially purchased in bulk or packaged as specially formulated mixtures that include vitamins, minerals and other supplements. An antibacterial compound needs to be added to Poultry Food since harmful bacteria and other microbial pathogens occur naturally in most feeds, which can also become contaminated with E.coli, Avian Influenza, Salmonella, Listeria and other disease causing organisms. Chinese poultry feed poses high risk of contamination by Microbial Pathogens.

Acqualife™ for Biocidal Use (3%-5% Solution) in the ratio of 4 gallons per ton of feed grain can be manually sprayed over the grain from a prepared deposit). Just wait for a number of 5-10 minutes after spray and grain will be ready-to-eat. In this application Acqualife serves as a preservative that does not affect the quality of the feed grain, which is often the case when traditional chemical preservatives are used. In addition to disinfection, The solution adds alkalinity and inhibits “breathing” of the grain, resulting in preservation of many important vitamins that usually disappear when temperature goes higher than 50°C.

Another important advantage of treatment with this solution is that high quality feed grain can be preserved for future consumption regardless of its moisture content and weather conditions.



Hormone & Antibiotic Use in Poultry Farming

Although hormone use is prohibited in many countries, antibiotics are used in large quantities. While many understand that the use of antibiotics puts humans at risk as bacterial strains develop stronger and stronger resistances at every step, advocates point out that after decades of heavy use of antibiotics, opponents of antibiotics can only argue about theoretical risks, since actual examples are difficult to document.

According to the U.S. Federal Food and Drug Administration, American farmers who raise food-producing animals and poultry use about 29 million pounds of antibiotics each year.

In the USA, to prevent any residue of antibiotics in poultry meat, any given antibiotics are required to have a "withdrawal" period before the poultry can be slaughtered.

A team of scientists from the University of Maryland and other universities found that large-scale Organic Poultry Farms -- which are not allowed to use antibiotics -- had significantly lower levels of drug-resistant bacteria than their conventional counterparts. Any drug-resistant bacterium that was found was assumed to have been transmitted to the poultry farm in contaminated feed or other means.

Disinfection of Manure & Litter

Manure and Litter must be sprayed several times a day with Full Strength Acqualife TM for Biocidal Use (3%-5% solution) to kill microbial pathogens and control odour.

With reference to a typical manure lagoon that he sampled, Dr. K. Schwab, director of the Johns Hopkins Center for Water and Health, stated, "There were 10 million E. coli per litre of sampled waste. Ten million. And you have a hundred million litres in some of those pits. So you can have trillions of bacteria present, of which 89% are resistant to drugs. That's a massive amount that in a rain event can contaminate the environment."

Effect of Acqualife TM in Egg Production

Laying hens that consume drinking Alkaline Ionized Micro-Structured Water produce eggs with stronger shells. For up to 3 days after an egg is protected by lay, Salmonella and other microbial pathogens can penetrate the egg shell and enter the interior of the egg, with the Salmonella bacteria continuing to grow. Such contamination and spread of disease can be prevented if the eggs are immersed for 5 minutes in Acqualife TM for Biocidal Use.



Efficacy of Acqualife TM for Biocidal Use

Because of all the variable factors, it is impossible to state the exact the Acqualife TM Strength, Dosing Ratio or Contact Time that is required to kill a specific micro-organism using Acqualife TM as Biocide.

In reality, the only way to determine the required FAC Strength, Dosing Ratio and Contact Time is by experimentation, since the type and concentration of microbial contamination differs from one instance to another. One of the main limiting factors is that of microbial cells mutating into an increasingly stronger organisms when an antibiotic or biocide does not achieve a 100% kill rate.

The advantage of Acqualife TM is that always results effective and due to the nature of the antimicrobial action (Electro Cell membrane Disruption) its impossible for bacteria and other microorganisms to develop resistance.

In recent studies Acqualife TM at 7% solution is able to provoke inertization and micro-fragmentation of certain special-resistant virus as ViH-I and II ant many others including filo-viruses as Warbrug and Ébola.

Acqualife TM for Biocidal Use has the greatest efficacy in penetrating microbial cells at the mitochondrial level with virtually 100% effectiveness in totally inactivating and destroying the entire microbial cell -- membrane, body and DNA -- in preventing residual cells from mutating into a stronger form of micro-organism.

The amount of Free Available Electrolytes and Contact Time are the determining factors in establishing the efficacy of in microbial reduction. Same and/or analogue results can be obtained during a short contact time with a high concentration, or with a lower concentration over a longer contact time.

Temperature is also important since most biocides have a lower efficacy at low temperatures.

The presence of proteins reduces efficacy as they interact with some of the components so higher concentration should proposed. At low concentrations of Acqualife TM and/or high microbial levels, the antimicrobial kill rate can be increased by longer contact time. The concentration of the microorganisms, the age of the bacterial community, adherence attachment to particulate matter, and the presence of biofilms are also determining factors in the efficacy of Acqualife TM as it happens with any or other biocide.

*Note: While Acqualife TM can effectively eliminate microbial pathogens in 5 minutes or less, it can take up to 50 minutes with Synergize Disinfectant whose active ingredients are Glutaraldehyde and Quaternary Ammonium as it appears that these are the most popular ones being used in the field.



Advantages of Using Alkaline Ionized Micro-Structured Water in Poultry Farming (both for drinking and in Biocidal Use)

The use of All-Natural Mineral Alkaline Ionized Micro-Structured Water produced thru Acqualife TM Transformation system and product in lieu of man-made biocides, hormones, antibiotics and other chemical compounds will completely revolutionize the Poultry Industry by putting Pioneer Innovators in the vantage position of being the first in the industry to gain the competitive edge over other Poultry Farm Operators.

The result will be an **Immediate Increase in Bottom-Line Profits.**

The use of Acqualife TM instead of antibiotics to kill Microbial Pathogens is far superior to other disinfectants such as those chemicals which are sold as tablets or powder that must be mixed with water before it can be sprayed or wiped on contaminated surfaces.

By contrast, Alkaline Ionized Micro-Structured Water including That for Biocidal Use is Generated On-Site As-Needed and does not require purchase, transportation, storage and mixing as must be done with man-made toxic chemical biocides. There are many other advantages as cost-effectivity ratio, no need of Biocidal Registration (under EC Laws) as Acqualife TM is a Food Grade Composition (alimentary Product). As far as it's being sold as Reactive Formula (React), the product is a concentrate that will need to be diluted and carefully managed, cause its power. This prevents from expensive water transportation and permit an optimization of resources as every liter of Acqualife TM React for drinking water uses i.e., prevents from transportation of 3.000-4-000 liters of finished water, with the unnecessary cost-in-use increase.

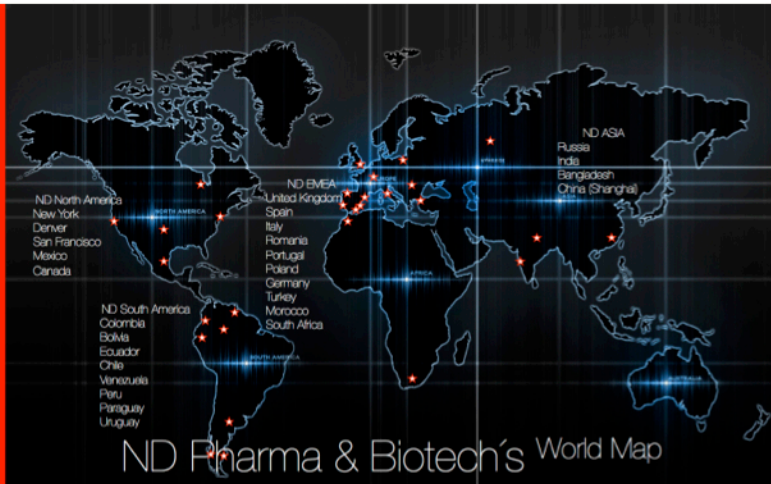
For more information, technical support and further assistance, please contact your nearest ND Pharma & Biotech Distributor, Agent and/or Sales force or writ us to: info@ndpharmabiotech.com, with Reference: Acqualife TM Farming.

ND Pharma & Biotech is a biopharmaceutical and chemical company focused on the rapid development of industry solutions for diverse fields and sectors from healthcare, medicine, food & nutrition, agriculture and other resources. As a leading company we have developed an immense portfolio of innovative solutions from our high-profile/high-evolved Research + Development + Innovation section, well balanced with our diverse portfolio of commercialized products and services.



The Group's industrial and marketing activities is supported by a global network of sales representatives with international presence in different continents and countries. Our operations comprise production, marketing and commercialization worldwide with a strong focus in new developments.

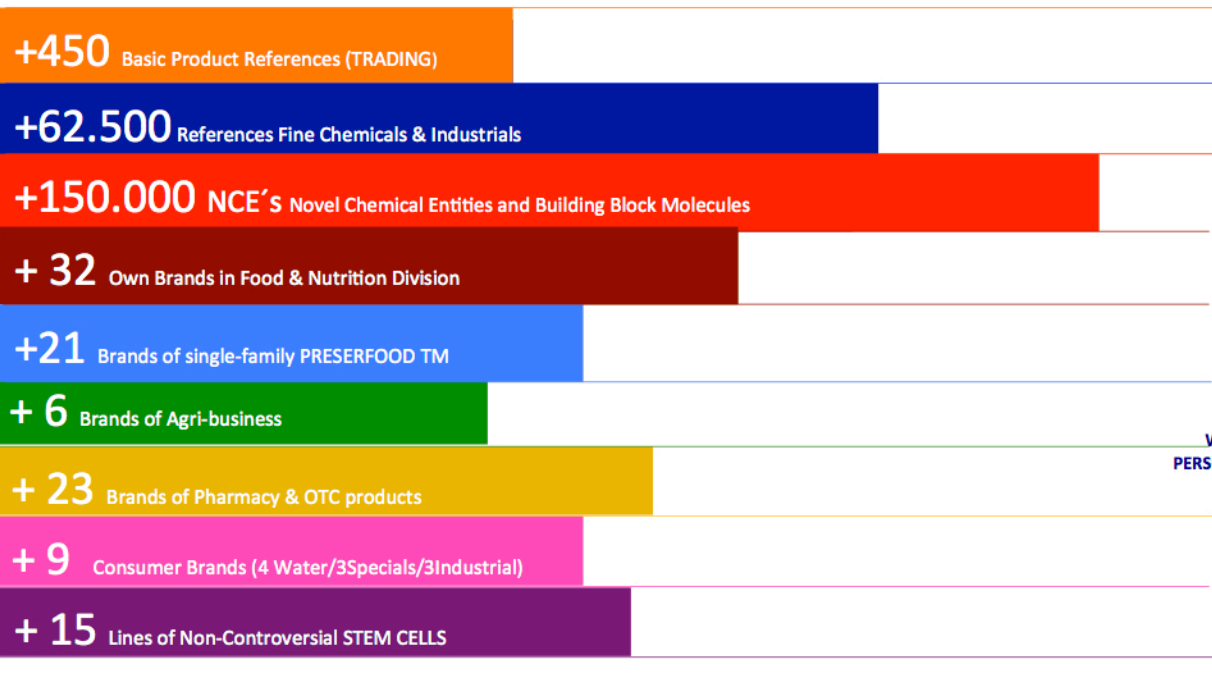
Global presence



Pro forma – Key numbers

- €258M**
- Capital
- €0**
- Debt with creditors/financial
- 300%**
- Net sustained sales growth 2012
- €750M**
- Estimated value R+D Portfolio
- 500%**
- Average planned growth by sectors.

We contribute to the success of our customers in nearly all sectors and almost every country in the world. We maintain a broad portfolio arranged in different sectors from Chemicals to Pharmaceutical, Personal Care, Performance, Functional Materials, On-field Solutions, etc. We are self-finance, stable and private-owned/managed company with an impressive record of research, development and innovation and registration of IP rights since the foundation of the company. ND Pharma & Biotech operates worldwide thru a network of distribution partners.



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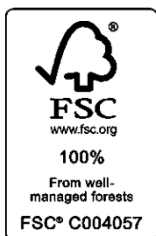
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ND Pharma & Biotech is a biopharmaceutical company that discovers, develops and commercializes innovative products and therapeutics in areas of unmet medical, food, nutritional, agro, industrial and many other needs. The company mission is to advance the care of people suffering from certain diseases, worldwide and to make life better promoting green chemistry issues and removing certain chemical toxics from our daily lives. Company also acts as a chemical supplier and molecular provider including certain rare molecules and hard-to find compounds, APIs Intermediates, Reactives, etc. Headquartered in Surrey, England, UK, ND Pharma & Biotech Company has operations worldwide thru a network of commercial and industrial partners, both companies and/or corporations.

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