



AcquaLife™

LIVESTOCK, PETS & FARMING



ADVANCING LIVESTOCK NUTRITION PERFORMANCE THRU STRUCTURED WATER TOP QUALITY



ACQUALIFE™
ND Pharma & Biotech

Animals have an innate ability to differentiate what they need. Most owners are unaware the damage they are doing to pets and other living animals when they serve them tap water or in many cases even bottled water. In the case of tap water, chlorine, chloride, fluoride, heavy metals and many damaging chemicals are present thus causing damage to your best friend or animals destined to human consumption. Animals are important to us and are prone to some of the very same ailments and diseases as us humans. As a matter of fact, the cancer rate has skyrocketed between farming animals and home pets to where it is now 1 in 5. Therefore, finding a safe, natural and affordable solution is at everyone's best interest.

Our animals also have a very fast metabolism and thus react much better and at a faster rate to Alkaline Ionized Water or Micro Structured Water. It has been observed that dogs and cats alike prefer a bowl of this water over a bowl of tap water when placed side by side. Based upon research and testimonials, ionized alkaline water has been shown to drastically improve the health of our pets as well as livestock.

As a real case example, there was a study conducted on a Japanese poultry farm some years ago, in which there were 20,000 chickens in building A and 20,000 chickens in building "B". Both groups of chicks were given the same amount and type of feed, however, group "B" was given ionized alkaline water. It was found after several weeks that the birds in group "A" with normal ground water had a lower survival rate of 94.5% while the chickens in group "B" that were given ionized alkaline water had a higher survival rate of 99.3%.

It was also found that the chickens that were given the ionized alkaline water weighed 1720 grams vs. 1590 grams of the ground water chicks. Throughout the study, there were no other alternations between the two groups of birds with the exception of the ionized water. It seems self evident from this test that Ionized Alkaline Water had a dramatic effect on the overall health of the chickens. Whether you have chickens, other livestock or even a cat or dog, supplying them with ionized alkaline water will make them healthier.

After the Japanese people were introduced to alkaline water and witnessed the positive health benefits and results were acquired through human consumption, the water was then introduced into dairy farms. Alkaline water was used in place of tap water as the sole source of water for dairy cows. The results are detailed in the **Pennsylvania Report. (Available thru the WORLD WIDE WEB)**

Twenty seven dairy farms took part in the clinical study and a report from a group of veterinarians is included. The source of each descriptive benefit is identified at the introduction of the report.

Overall observations of Dairy Cows from the report are:

1. Enhanced milk production by 18% - 28%.
2. Significant improvement in the quality of milk.
3. Strong feces and urine odors were eliminated.
4. Healthier skin condition.
5. Decreased injury to the udder.
6. Reduced diarrhea
7. Strengthening of the legs by 26 % increased bone density.
8. Improved appetite.
9. Able to decrease mineral supplements routinely supplemented to the diet
10. As a result of improved health together with denser bone, the productive life of the cows was extended.
11. Greater fertility rate and reduced stillbirths.
12. A noticeably increased appetite; no new supplements were added to their diet. Increase in appetite noted in older cows as well.
13. Food well digested.
14. A beautiful sheen on the cow's hair.
15. Higher fertility rate; higher pregnancy rate.
16. New-born calves fed with alkaline water matured quicker.
17. A dramatic increase in milk production.
18. Improved liver condition.
19. Strengthened legs.
20. Minimizing of sicknesses; tremendously improved health condition. There were fewer visits by vets.
21. No adverse conditions noted from consumption of alkaline water.





The study is one of several more that is conducting in a range of 30 to 3,000 herd dairies to measure the effectiveness of such kind of water for milk production. As part of the “Penn Vet” study, in addition to the pH increase, this water also developed thru a proprietary method of creating and controlling the level of measurable antioxidants in the water to better match the antioxidant conditions of a healthy cow's primary digestive system. Additionally this water also cleans the drinking water. Water samples collected from the troughs over the course of the study showed the regular water treated was consistently negative for coliform organisms such as E. Coli and other bacteria. Blood chemistry tests conducted also showed that blood urea nitrogen, creatinine, magnesium and chloride levels were lower in treated cows than those part of the control group.

"We know there are many factors that influence milk output and quality. By conducting tests in a variety of dairy settings, we believe we are gaining invaluable experience, application knowledge and acquiring accurate data to show that our Special Water can be an effective, natural solution, capable of impacting positive returns on milk and butterfat production. And, most importantly, benefit the overall health of the cow”.

Other Studies on Alkaline Ionized Water by Veterinarians.

1. Toshibide Uchivania Hamarnaisu Veterinary Center, Technology Division

Our division started the experiment of giving ionized water to animals just a few years ago. Although detailed and precise data are currently being analyzed, we hereby report our analysis of distinct results of the experiment. Alkaline ionized water does the following:

Promotes appetite, makes animals less selective of their food.

Increased number of bowel movements, very good and well digested stool is evacuated.

Gives luster to the coat and makes the color distinctive.

Increases the number of ruminations

Enhanced reproductive function achieves higher pregnancy ratio and reduced breeding disorders

Works effectively as growth promoting agent for calves after weaning.

Makes them produce more milk.

Good for liver function

Good for increasing appetites of old cows and attaining complete digestion

Effective for treatment and prevention of Osteomalacia

These are part of our findings. The results are very satisfactory and there is no risk of side effects. Since alkaline ionized water is orally taken, it is absorbed only to some extent and excessive elements are excreted. This is why the water causes no side effects.

(Excerpt from the Supplement to Veterinary and Livestock report number 229)

Other Studies on Alkaline Ionized Water by Veterinarians. (Cont.2)

2. Yosuihiro Ursuda, Shimane University, Department of Agriculture:

We conducted an experiment by giving iodized water to milk cows on a constant basis, and compared their health, and amount of milk produced, and its impact on calcium concentration in the blood with those given tap water as before. We noticed substantial increases in the amount of milk for the group that was given iodized water. We also found that ionized water does not bring any side effect disorders.

(Excerpts from Veterinary and Livestock report 715, 17 -18, 1981.)

3. Saturo Sugiyana, Kushiro District Agricultural Cooperative Association, Livestock Clinic, Hokkaido.

I often receive questions about ionized water from people I visit, and I answer that I personally think they would be wise to use it. From a biological and biotechnological point of view, ionized water has all the “plus” effects on promotion and maintenance of health of milk cows without any “minus” effects. How much “plus” would depend on the herd of cattle and maintenance conditions. The biotechnological grounds for using ionized water is for the improvement of acidity (pH) of gastric juice in the first stomach of the cows. By giving them ionized water every day, high level of bacterial activities can be maintained, and diseases such as rumin acidosis, and loss of appetite can be prevented. It also improves digestion and achieves high feeding efficiency. In addition, the milk cows constitution itself can be enhanced and the body fluid (blood, lymphocyte, intercellular liquid) is turned to neutral, or further to alkaline.

Therefore, functions of internal organs are improved resulting in higher productivity and resistance against diseases. That way, decreased number of disorders and increased amount of milk are expected. From these points of view, I would recommend the use of alcohol water for cattle that are expected to have high milk productivity and those vulnerable to rumin acidosis due to the type of food.

(Excerpts from Agricultural Cooperative Report No 70 October 1988)



Other Studies on Alkaline Ionized Water by Veterinarians (Cont.3)

4.Manubu Kubota, Naobumi Kusakari, Shoji Endo, Veterinarians, Kushiro Hamanaka District Cooperative Association, Hokkaido

Ionized alkaline water was experimented for Holstein bullocks this time. The following are the effects of the ionized water in the experiment.

Clearly repressed the reduction of pH in their first stomach
Prevented and reduced the chance of liver system caused by rumen acidosis which is the “occupational disease” of the bullocks.

Promoted protein synthesis and gained the weight of bullocks as seen in the increase of **PT** (transprotonase) and albumin. Among major nutrients, alkali metal elements such as calcium, sodium and magnesium are essential for the animal body. These elements exist not as a single entity (ionized) but as various chemical compositions (silicate, sulfate, carbonate). Animals take them every day from the food, water and soil and absorb them to maintain their lives. Studied from the viewpoints of nutrient growth and rejuvenation of the cell tissues, these compositions include large amounts of non effective materials. The pure nutrients that are actually taken and absorbed are only part of the list. Other elements are excreted as waste. It is known that Japanese soil is acidic with small amounts of alkali minerals due to its volcanic nature. Therefore, the amount of alkaline minerals **in** the river water in Japan is very limited, and is only 20% -30% of those in many countries. Soil and river water serve for the fields and farmlands of the region, determine the nature of plants that grow there resulting in controlling the nature of animals that feed on the plants and the water.



ALKALINE WATER FOR DAIRY COWS

These large scale dairy trials are clear evidence that Alkaline Water does provide significant health benefits.

Animals, remember, are not subject to the 'placebo effect'.

Results from use of Alkaline Water on 27 Dairy Farms

An increase in milk output by 18% – 28%.

Improved the fertility rate and reduced still-births.

A notable improvement in the quality of milk.

Elimination of strong feces and urine odors.

Healthier skin condition.

Alkaline water was used in place of tap water as the sole source of water for dairy cows.

The results and findings were obtained from 27 dairy farms, along with a report from a group of veterinarians. The source farm and spokesperson of each report is identified at the beginning of the report.

In general, the following measurable conditions were noted:

An increase in milk output by 18% – 28%.

A notable improvement in the quality of milk.

Elimination of strong feces and urine odors.

Healthier skin condition.

Minimized injury to the udder.

Decrease in diarrhea cases.

Strengthening of the legs.

Increased appetite.

Able to reduce mineral supplements normally added to the feed.

Due to an improved health condition coupled with stronger legs, the productive life span of the cows was extended.

Improved the fertility rate and reduced still-births.



REPRESENTATIVE FARMS WITHIN THE STUDY

Dairy Farm: Shikawa Ranch

Location: Momembetsu, Hokkaido

Spokesperson: Mr. T. Shikawa

1. There was a noticeable improvement in the quality of the milk.
2. Despite the high temperature during the summer months, the milk output had increased dramatically. During the previous summer months, milk output had declined.

Dairy Farm: Takahashi Ranch

Location: Notsuke, Hokkaido

Spokesperson: Mr. Takahashi.

1. The sickness rate was considerably reduced.

Dairy Farm: Kasahara Ranch

Location: Nomura, Hokkaido

Spokesperson: Mr. G. Kasahara

1. The milk output had increase from 7,000kg o 8,900kg or an increase of 27%.
 2. The use of the alkaline water had instilled a preventive approach to the overall health condition of the dairy cow in lieu of reactive medical means.
- The overall health condition of the herd had improved dramatically.

Dairy Farm: Yamamoto Ranch

Location: Amashio, Hokkaido

Spokesperson: Mr. M. Yamatani

1. The milk output had increased from 317 tons to 393 tons or an increase of 24%.
2. The cow became fertile with one month of giving birth.
3. There was a substantial reduction to the number of veterinary visits.
4. There was a noticeable increase in their appetites.

Dairy Farm: Aikawa Ranch

Location: Akan, Hokkaido

Spokesperson: Mr. M. Aikawa

1. The odors that are normally present in the urine and excrements were dramatically reduced.
2. The birthrate was considerably increased by the increase in fertility rate and the minimizing of stillborn calves.
3. There was a dramatic increase in milk production.
4. This farm is utilized as a model ranch in the use of alkaline water.

Dairy Farm: Yamatani Ranch

Location: Kamikawa, Hokkaido

Spokesperson: Mr. M. Yamatani

1. The quality and quantity of the milk has improved considerably.
2. Considerably minimized the sickness rate of each cow.
3. Minimized diarrhea conditions.
4. An overall improvement was noted in every aspect of the dairy cow equating to better economic conditions.



REPRESENTATIVE FARMS WITHIN THE STUDY II

Dairy Farm: Fukagawa Ranch

Location: Joro, Hokkaido

Spokesperson: Mr. E. Fukagawa

1. There was a substantial reduction to the number of veterinary visits.
2. Reduced the swelling rate of the cows legs.
3. Reduced the rate of external wounds caused by suction cups.

Dairy Farm: Sudo Ranch

Location: Munetani, Hokkaido

Spokesperson: Mr. M. Sudo

NOTE: Unlike other dairy farms, this farmer had discontinued the use of alkaline water to measure the effects of returning to normal tap water.

The following were the effects that were noted:

1. The strong odors associated with cow excrements had returned after a period of time; when the foul odor had been eliminated through the consumption of alkaline water.
2. The sheen that was once present on the cows had disappeared and the hair had returned to a lackluster condition.
3. The frequency of diarrhea had increased.
4. Weakness was noticed in the cows legs as opposed to the strengthening of the cows legs during the use of alkaline water.

Dairy Farm: Ueda Ranch

Location: Akan, Hokkaido

Spokesperson: Mr. T. Ueda

1. The fortified calcium through the electrolysis water has strengthened the legs of the cows.
2. Due to the dramatically-improved health conditions, the quality of the milk has improved.
3. In the long run, the use of alkali water is a totally economical approach to the dairy industry.

Dairy Farm: Okura Ranch

Location: Asahi-kawa, Hokkaido

Spokesperson: Mr. Y. Okura

1. The alkaline water has produced healthier cows.

There were no changes to the diet or the environment but the cows became healthier.

2. Increased their monthly sales by \$20,000.00 through increased milk output.

(NOTE: There were no other comparative numbers provided to determine the actual increase in productivity levels.)

Dairy Farm: Hamanasu Ranch

Location: Mombetsu, Hokkaido

Spokesperson: Mr. S. Nakagawa.

1. The coloring of the udder became extremely healthy.
2. In result of alkaline water consumption and it's natural healing ability, the amount of injury to the udder had diminished.
3. The milk output has increased by 800 kg per cow.



IONIZED ALKALINE WATER SAFELY INCREASES MILK PRODUCTION AND MILK QUALITY

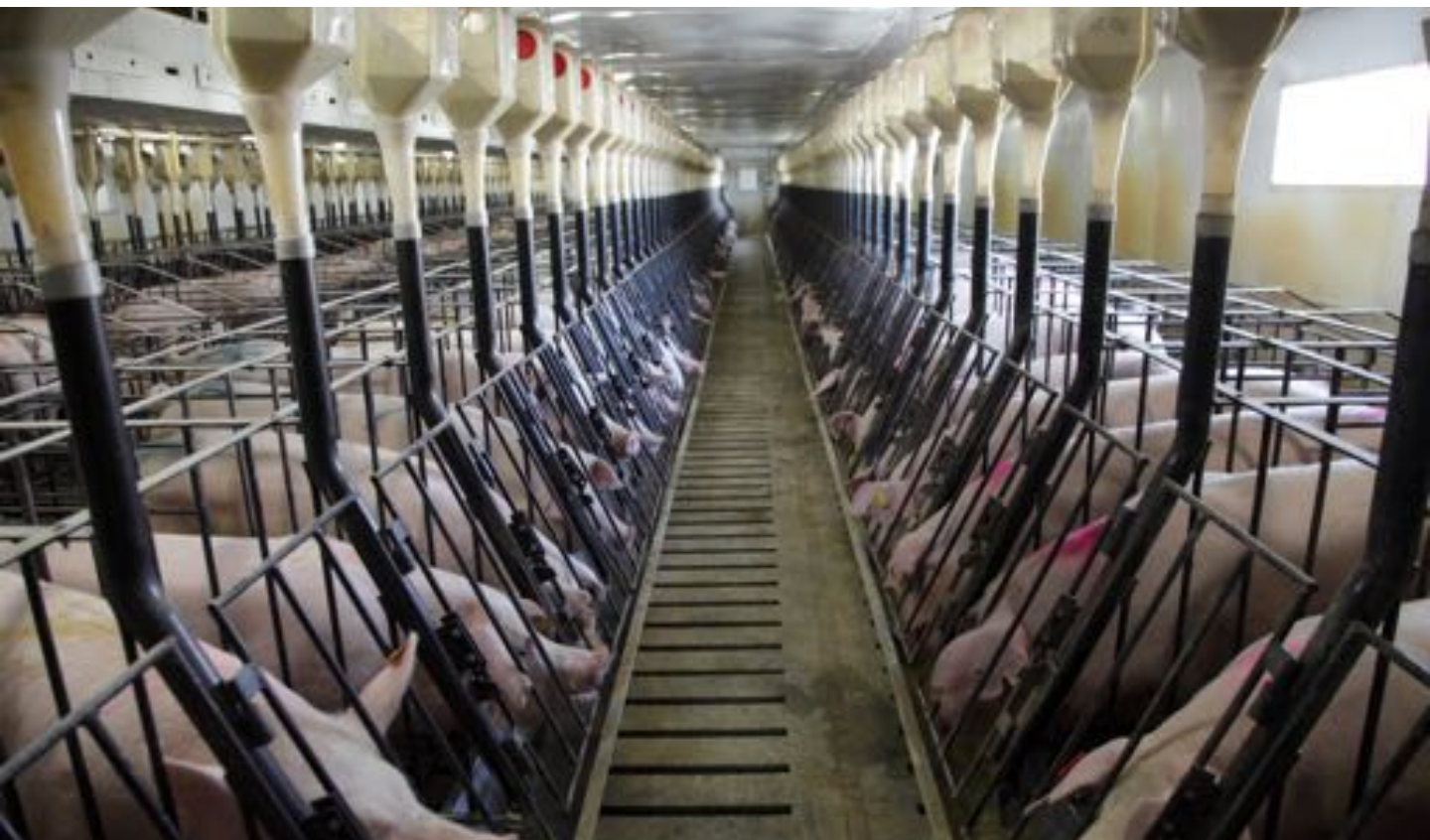
The most important animal supplement but least recognized is water. To maximize milk production, the cow must have energy and be completely hydrated. Energy is a result of proper feed conversion. Hydration is a result of water absorption. All water is not equal. A little known fact is water carries an electrical charge. The higher the electrical charge the less it will absorb. Therefore, a very hydrating water has no electrical charge. This is called negative water, functional water or ionized alkaline water. The Japanese recognized the value of this water more than 20 years ago and has been using it to increase milk production. The Japanese report up to 28% increase in milk production with ionized alkaline water compared to well water.

The Japanese create ionized alkaline water with an electrical generator device, that is costly and less stable than Alkaline Ionized Water created thru ND Pharma & Biotech product Acqualife TM React.

Ionized alkaline water is the best method for organic dairies to improve profits. Our organic dairies report 15% to 20% increase in milk production after 6 weeks of use. It is well known high somatic cell counts lowers milk production and quality. ACQUALIFE TM Rect assists in hydration, reduces mastitis and other infections including sub-clinical infections resulting in drastically lower somatic cell counts.

Ionized alkaline water with the proper balanced nutrition is the best method for dairies that are phasing out other methods/systems of water supply. The combination supplied keeps milk production high, improves the herd's health, lower infections and somatic cell counts. Compared to other methods/systems, ionized alkaline water is very inexpensive. A 14-day cycle of any system of water supply averages 45 cents per day. Ionized alkaline water cost less than 7 cents per day. In addition most of tested systems only provides 6% to 8% milk increase while ionized alkaline water can increase milk production up to 28%.

Ionized alkaline water is beginning to be recognized for its dairy benefits. Recently, the University of Pennsylvania's New Bolton Veterinary Center completed a 12-week study that confirmed the Japanese results of higher milk yields and quality. The study concluded ionized alkaline water increased milk production, milk butterfat and lowered MUN (milk urea nitrogen). This study helps validate the technology and proves that ionized alkaline water is the modern method to safely increase milk production, milk quality and animal health.



Japanese Study

With the advent of electrolysis water treatment in the Japanese marketplace, electrolyzed alkali water was introduced into dairy farms. Knowing the positive health benefits and results that were acquired through human consumption, **alkaline water was used in place of tap water as the sole source of water for dairy cows.** The results are reported in the subsequent findings. The findings were obtained from 27 dairy farms, along with a report from a group of veterinarians. The source of each report is identified at the beginning of the report.

In general, the following measurable conditions were noted:

1. An increase in milk output by 18% - 28%.
2. A notable improvement in the quality of milk.
3. Elimination of strong feces and urine odors.
4. Healthier skin condition.
5. Minimized injury to the udder.
6. Decrease in diarrhea cases.
7. Strengthening of the legs.
8. Increased appetite.
9. Able to reduce mineral supplements normally added to the feed.
10. Due to an improved health condition coupled with stronger legs, the productive life span of the cows was extended.
11. Improved the fertility rate and reduced still-births.

Aside from the above, the following observations were noted by the veterinarians:

1. A noticeably increased appetite; no new supplements were added to their diet. Increase in appetite noted in older cows as well.
2. Food well digested.
3. A beautiful sheen on the cow's hair.
4. Higher fertility rate; higher pregnancy rate.
5. New-born calves fed with alkaline water matured quicker.
6. A dramatic increase in milk production.
7. Improved liver condition.
8. Strengthened legs.
9. Minimizing of sicknesses; tremendously improved health condition. Fewer visits by vets.
10. No adverse conditions noted from consumption of alkaline water.



Conclusions.

Research has proven that ionized alkalized water (structured water) is very beneficial for humans; you can imagine what it can do for your pets and livestock! Veterinarians and pet owners alike have seen the benefits that alkalized ionized water offers, and believe that an alkaline animal is a healthy animal. When testing this kind of water in a scientific setting the results can only be tainted by the human mind by something known as the placebo effect. This isn't true with animals, when feeding ionized alkalized water to pets and other livestock populations, the placebo effect is not a factor. If you are testing a product such as this on animal populations, it either works or it doesn't work...end of story.

Even though specific tests on all species of animals have not been performed, most of the preliminary research was done on animal populations. This research validated the use of alkaline water for pets in the reduction of stillbirths, increased fertility rates, elimination of intestinal pathogens, and the reduction and elimination of certain types of tumors and other forms of cancer in animal populations. Drinking structured water is one of the best prophylactic ways to maintain good health that is available today; whether you are human or an animal. Some of the benefits that you will notice when providing alkaline for your pets and/or livestock will include: skin itchiness and dryness will be relieved, their fur will be shinier, smoother and softer, they will have fresher breath and their feces and urine will not be as potent smelling. If you raise dairy animals, there will be an increase in their fertility rates, and milk production will increase as will the quality.

Even the acidic water that the ionizers produce is useful in helping to treat and to kill pathogens and insect pests, fungal and bacterial skin conditions, acidic water even works on skin abrasions and cuts! Alkaline water is a tremendous overall antioxidant product that you can feed your furry friends to keep them healthy.

In Asia, the use of this type of technology and its benefits are well known. It has gotten to the point where alkaline water is used in place of tap water as the sole source of water for dairy cows on many farms.

For more information please refer in writing to:

ND Pharma & Biotech Company

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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.

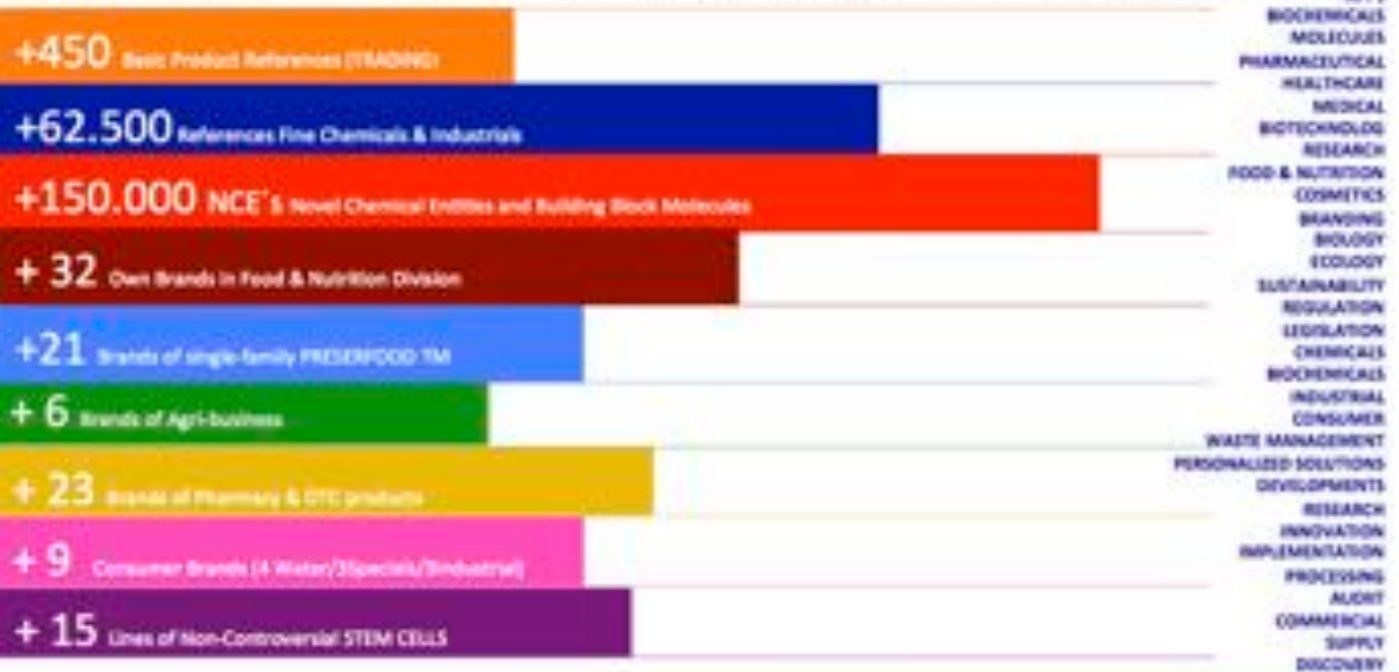
Global presence



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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BioResearch		■	■
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Nutrition	■	■	■
MicrobialControl	■		13 ■
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