NDS
Nutrient Delivery System

NDS® Probiotics

Let us remind you of the benefits

Probiotics are good intestinal bacteria that create life. Find out more about the bacteria of life.

Using good probiotic intestinal bacteria in powder form – dissolved in lukewarm water before ingestion – shows clear benefits. This method means that more good intestinal bacteria survive their passage through the gastrointestinal tract and reach the intestine in a viable state. Probiotic supplements are not nearly as effective when taken as tablets or capsules. Studies carried out by the manufacturer of NDS® Probiotic have shown this to be true. NDS® Probiotic offers other clear benefits.

A recurring question is why probiotics in NDS® powder form is preferable to other formulations and products. To answer this question, we have carried out several comparative studies to examine the efficiency, survival and benefits of the powder form.
NDS® Probiotic contains several different and specially selected good intestinal bacteria in freeze-dried form. This means that the bacteria have been dried and pulverised after a freezing process. The liquid required in their active form has thereby been removed from the bacteria. Most products containing intestinal bacteria undergo this process. Before ingestion, NDS® Probiotic must be dissolved in lukewarm water and left for 10-15 minutes before drinking. The most effective method is to drink the mixture before bedtime or some time before breakfast. The reason for NDS® Probiotic having to be dissolved in water before ingestion is that the bacteria must be given time to absorb the water required for their reactivation and efficient ability to function. They must be rehydrated in clean water and not in drinks such as milk, squash or fizzy drinks. When capsules or tablets are ingested, they initially arrive in the stomach with its acidic environment and other liquids. This is a tough ride for dry bacteria that quickly need to absorb liquid to become active again. This is the first argument for NDS® Probiotic in powder form being preferable to other probiotic products.

To aid the bacteria further in handling the osmotic shock involved in suddenly being exposed to liquid, the manufacturer of NDS® Probiotic has added special nutrients to the bacterial mixture. These include three different minerals and some prebiotics (food for probiotics). This improvement gives the bacteria a 'packed lunch' for their journey through the gastrointestinal tract to increase their chance of growing and attaching to the mucous membrane of the gut. Capsules and tablets are too small to be able to contain these important nutrients. Many capsules and tablets would be needed for a teaspoonful of NDS® Probiotic. Due to these added nutrients, NDS® Probiotic has at least two years' documented stable shelf life at room temperature. Tablets and capsules usually require storage in a refrigerator in order to keep the declared content fresh until its expiry date. As a rule, the number of bacteria in e.g. capsules is reduced by 2-4% a month when stored in a refrigerator, but the bacteria reduce by between 20-40% a month if they are stored at room temperature. Again, NDS® Probiotic has a clear advantage.

In recent years, the manufacturer of NDS® Probiotic has compared its probiotic mixtures with many competing products from Europe. One way of proving that the bacteria reach the intestine in a viable state is to measure their ability to produce acid. Many intestinal bacteria produce lactic acid and are therefore also called lactic acid bacteria. One measure of bacterial efficiency is that they are able to produce sufficient acid to reduce pH levels efficiently. The lower the pH is during testing, the more efficient the bacteria are. This study compares a competing product called X with NDS®

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Probiotic. Both products have the same number of bacteria per gram, in this case 10^9 = 1,000,000,000 bacteria per gram. During testing over five hours, NDS® Probiotic managed to lower the pH from 5.7 to approx. 4.2. Product X only managed to lower the pH from 5.7 to approx. 5. Based on this study, it can be concluded that the bacteria in NDS® Probiotic are more active and efficient than the bacteria in product X. The manufacturer of NDS® Probiotic has conducted many similar tests with competing products containing probiotics. Other efficiency tests have been carried out by measuring the amount of bacteria in stool samples, taken before and after a period of supplements containing various probiotic products.

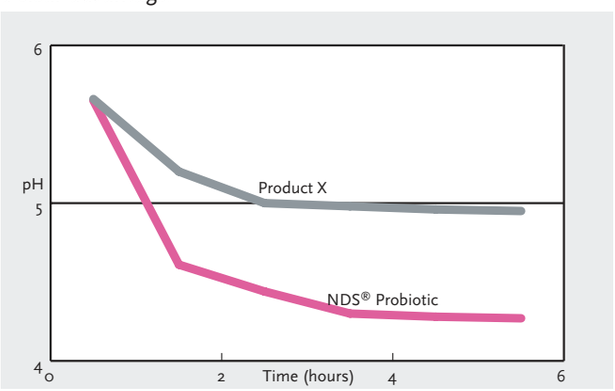
Another way of documenting that probiotics in powder form are more efficient than probiotics in capsule form is to conduct a comparative study with NDS® Probiotic in powder form with the same mixture of NDS® Probiotic in capsules. Again, the capsule contains the same number of bacteria per gram. In the laboratory, the journey through the changing environment through the gastrointestinal tract is replicated and samples of surviving bacteria are taken from three different environments. NDS® Probiotic in powder form is dissolved in water and then left to stand for between 10 and 15 minutes before testing starts. The NDS® Probiotic capsules are placed directly in the test container at the beginning of the test. In the graph below, A stands for the number of living bacterial cells measured at the start. B is the number of living bacteria found after they have been exposed to gastric acid and pepsin. This replicates the environment of the stomach. C is the number of living bacteria found after they have been exposed to an environment that simulates the environment of the duodenum. This means a nearly neutral pH with increasing amounts of pancreatin and bile salts. After six hours of testing, only a minor reduction was found in the number of living bacteria from NDS® Probiotic in powder form while NDS® Probiotic in capsule form showed a greater reduction in the number of living bacteria. This test shows that the powder form in which the bacteria are dissolved in tepid water before ingestion deliver more active bacteria to the small intestine

Other benefits of NDS® Probiotic

- **The various NDS® Probiotic mixtures consist of 6-10 different bacteria selected for their use and their ability to work together – which results in synergies.** Although the two different strains of Lactobacillus and Bifidobacterium are the best known and most thoroughly researched intestinal bacteria, more than one thousand different bacteria live in our intestinal system. They keep each other in check while many also work together and consolidate each other's effects. It is completely illogical to believe that you create balance if you take supplements containing only 1-3 different bacteria.
- **NDS® Probiotic contains specially selected bacteria that have the individual function required in different situations.** It is unrealistic to think that all people and different age groups have the same bacterial supplement requirements. The composition of our bacteria changes throughout life and even at the same age people do not suffer from the same imbalances. The various bacteria in NDS® Probiotic have been selected according to their particular strengths and functions.
- **The various NDS® Probiotic products contain from 500 million to 20 billion bacteria in a single gram of product.** As the standard recommended dose is one teaspoonful that weighs between 3 and 5 grams, a daily dose will contain between 1.5 and 50 billion viable bacteria. Not many competing products are able to match that.
- **NDS® Probiotic is manufactured under pharmaceutical conditions and production follows GMP rules which require verification, hygiene and documentation.** The manufacturer of NDS® Probiotic has appointed a team of researchers, product developers, laboratory technicians and physicians who work with GPs and other medical professionals around the world. NDS® Probiotic always seeks to be at the cutting edge of devel-opments. Feedback and new suggestions from users of the products are therefore vital.

The grey graph shows a competing probiotic product called X with a content of 10^9 bacteria/gram and the product's ability to produce acid in a test conducted over a period of five hours.

The pink graph shows NDS® Probiotic with a content of 10^9 bacteria/gram and the ability to produce acid in a test conducted over a period of five hours. The result is that NDS® Probiotic shows a clear advantage.



The grey graph shows the reduction of the number of living bacteria when NDS® Probiotic in capsule form is exposed to the changing environment through the gastrointestinal tract.

The pink graph shows that nearly all bacteria from NDS® Probiotic in powder form, which has been rehydrated in water, survive the changing environment through the gastrointestinal tract.

