

Did You Know?

After reviewing over 50 research papers on the effectiveness of individual “friendly bacteria” strains, I have identified **ten little known “friendly bacteria” strains** which I believe will greatly benefit the health of our race birds. Therefore, I have decided to add these ten beneficial strains to our popular **“Bio-Fresh” Probiotic product**.

Below, I have highlighted several of the unique benefits that these ten new “friendly bacteria” strains provide:

Did you know? Endurance athletes experienced **58% fewer respiratory infections** when given a specific rare strain of “friendly bacteria”. Not only do these athletes have fewer respiratory infections, but when they do experience a respiratory infection, the severity of that infection is greatly reduced, and the duration of the infection is half that experienced by endurance athletes not using this rare “friendly bacteria” strain.

There is a little known “friendly bacteria” strain that is specifically effective against **Coccidiosis**, and another “friendly bacteria” strain that specifically inhibits **Salmonella/Paratyphoid** infections in the egg duct.

There is yet another “friendly bacteria” strain that prefers to occupy the crop region of a pigeon and is of particular benefit for preventing **sour crop** and conditions where birds “throw up” or holds water and grains unable to pass them through the digestive tract. This “friendly bacteria” strain is very useful when fighting **circo** and **adeno** type symptoms.

Another little known “friendly bacteria” strain is known as a **“companion” strain**. Not only does it protect against many of the pathogens that infect our birds, but studies show that this “companion” strain also fortifies other “friendly bacteria” colonies so that they function and protect at a **higher level than they would otherwise**.

There is a strain of “friendly bacteria” that **doubles the levels of interferon gamma**, an important immune-system molecule in the **fight against viral infections**. This is particularly important to the racing pigeon fancier trying to control **circo** and **adeno** viral symptoms.

Did you know there is a little known “friendly bacteria” strain which produces several unique bacteriocins (natural antibiotic substances), that specifically **protects youngbirds 2 – 5 weeks old** from mucosal lesions and necrotic enteritis (which is often fatal), brought about by Coccidiosis and Clostridium perfringens infections. Also, if your feed mixture contains substantial amounts of wheat, barley, rye, or oats; then you should consider using this “friendly bacteria” strain throughout the year, as it offers your birds additional protection when substantial amounts of these grains are used.

Did you know that E Coli and other pathogens will **colonize the lungs and air sacs** of our birds often causing tissue damage and reducing respiratory capability. The good news is that there is a little known “friendly bacteria” strain that **helps protect the lungs and air sacs** of our birds from pathogenic infections, allowing our birds to perform at a higher level during the race season

Did you know that “friendly bacteria” strains (and bad bacteria strains) are localized to specific areas of the intestinal tract. Some favor one of the three segments of the foregut (duodenum, jejunum, ileum) and some favor one of the two segments of the hindgut (cecum and colon). Some “friendly bacteria” strains not only colonize specific segments of the digestive tract but also colonize the air sacs, lungs, esophagus (crop), mouth, nasal cavities, and even the eye ducts.

It is not enough that your probiotic contain several different strains of friendly bacteria, what is important is that your probiotic contains the **proper blending of multiple “friendly bacteria” strains**, where each included strain addresses a specific potential health problem. We now know that friendly bacteria strains can contribute to the health of the lungs and air sacs, the nasal cavity and the eye ducts. Specific friendly bacteria strains can even defend against respiratory and crop infections, against “one eye” colds and conjunctivitis. One specific friendly bacteria strain can even double the levels of interferon gamma, an important immune-system molecule in the fight against viral (**circo** and **adeno**) infections.

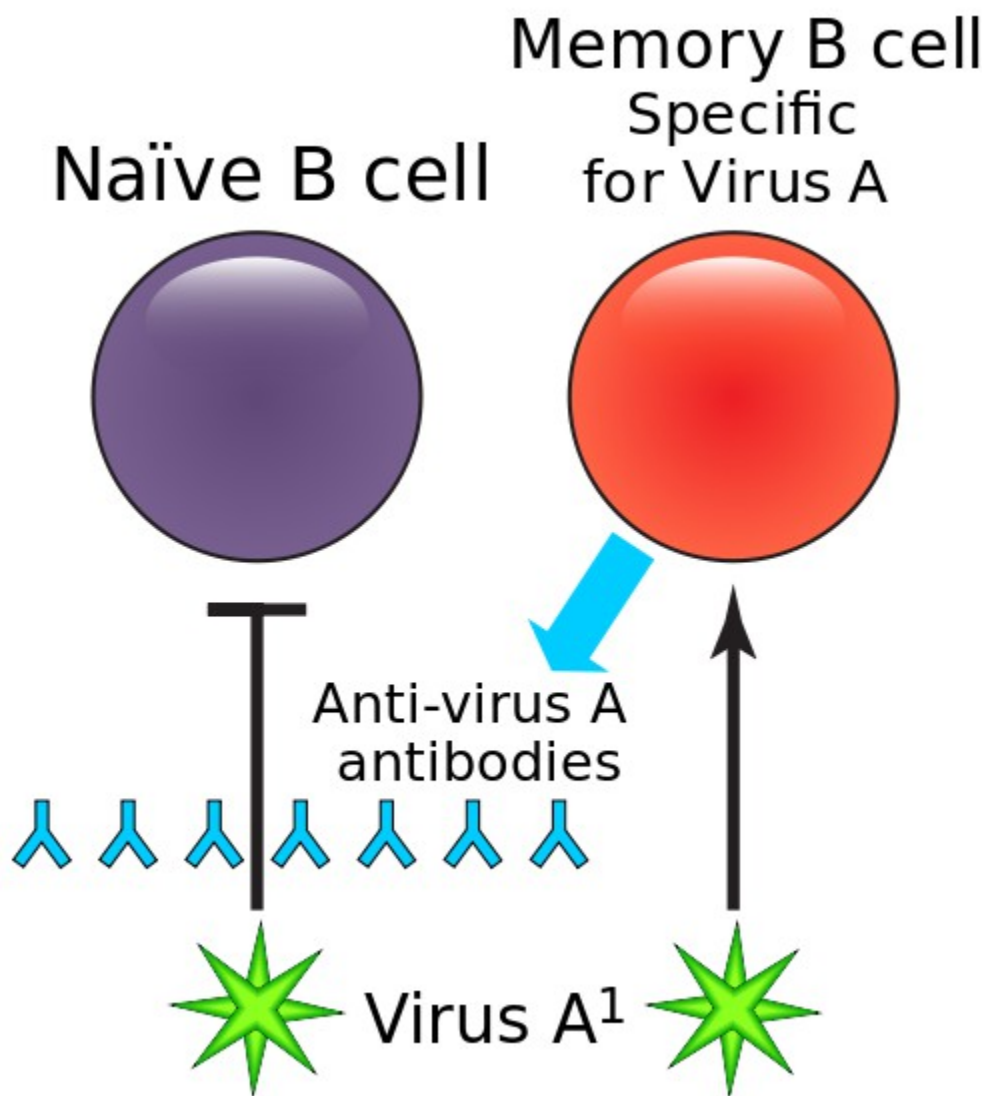
In September of 2012, I added two additional “Friendly Bacteria” strains to the Bio-Fresh product, increasing the number of probiotic strains from 10 to 12. Scientific studies had shown that the unique contributions these two “Friendly Bacteria” strains will contribute greatly the overall health of our birds.

One of these “Friendly Bacteria” strains, is known for its ability to stimulate both the natural and the acquired immune responses. This “Friendly Bacteria” strain, has been shown in scientific studies to **increase Serum antibody concentrations by as much as 150%**. This means that, not only does it contribute to the health of the gastro-intestinal tract, but it stimulates the production of antibodies in the blood which carries them to organs assisting in pathogen elimination.

The other “new” friendly bacteria strain, increased the presence of Peyer's patch cells, and B cells in the mucosal layer (the interior lining of the mouth, nose, eyes, ears, intestinal tract and lungs), B-cells and B memory cells are stimulated upon

encountering antigens **and when activated by the presence of these antigens**, carry out their final effector functions **producing specific antibodies against pathogenic infections**, whether bacterial or viral in nature.

The difference between the B-cell and the B memory cell, is that the B memory cell is left over from the last encounter with the specific pathogen and already has memorized the sequence of antibodies and other defenses that it will utilize to combat and defeat the specific pathogen. The naïve B-cell, which has no memory of earlier encounters with this pathogen, uses a more general sequence of operations to discover the most efficient means to dispatch the specific pathogen encountered.



Since all of life is about change, pathogens mutate and so the memory from the last encounter may not longer be the most efficient pathway to dispatching the mutated version of the specific pathogen. Therefore, you need Naïve B-cells to learn from scratch the best methods to dispatch the specific pathogen, and these B-cells then become the new B memory cells for when the specific pathogen is encountered again at some time in the future. At the same time, you need the B memory cells, so that they can immediately, upon identifying the specific pathogen, duplicate themselves millions of times and rain down the heavy artillery on the pathogen, while the rest of the immune response gears up their response.

Usually, the B memory cells are about 8 to 10 days ahead of the naïve B-cells (and the overall immune response) in taking highly targeted and highly effective action against the specific pathogen. However, it is the naïve B-cells which becomes the new B memory cells and which will circulate in a state of hibernation (for up to years) until they encounter the specific pathogen that they are specialized to destroy.

With this new formulation of the Bio-Fresh Probiotic product, I have taken the guesswork out of which is the **best racing pigeon probiotic** product on the market today. There is no other product being marketed that has as many friendly bacteria

strains, specifically selected to address the needs of racing pigeons. You are just not playing with a full deck, if you are using any other probiotic product. Additionally, **Bio-Fresh** is the only probiotic that includes **antibodies, immunogloblins and prebiotics** (specialized nutrients specific to growing friendly bacteria colonies) in our product, which increases the effectiveness of our product by 400%.