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The Probiotic "Health Dividend"
How Probiotics and Prebiotics effect the health of our birds

Written by: John Vance ~ email: johnv@thenational.us

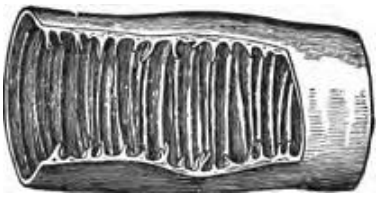
The digestive tract of a racing pigeon, is home to a number of microorganisms, including various types of protozoa, bacteria, and fungi (includes yeast). The normal relationship between these microorganisms and the host (racing pigeon) is symbiotic, meaning "the living together of dissimilar organisms". Symbiotic relationships are classified as either commensal, mutualistic, or parasitic. A symbiotic relationship is commensal when one organism derives food or other benefits from another organism without hurting or helping it. A symbiotic relationship is mutualistic when both organisms derive a fitness benefit. Finally, a symbiotic relationship is parasitic when one member of the association benefits while the other is harmed.

Concerning the symbiotic relationship which exist between our racing pigeons and the protozoa, bacteria, and fungi which reside within the birds, the normal relationship is either commensal or mutualistic, and the normal effect of these microorganisms (protozoa, bacteria, and fungi) on the host (the racing pigeon) is to provide important services which enhance the overall health of the bird's ecology.

When populations of protozoa, bacteria, and fungi are in their proper numbers and relationships, they tend to inhibit and control one another, keeping the mix from becoming lop-sided and "pathological". If one or another of these populations explodes, it may throw off this balance, resulting in one or more diseases for the host.

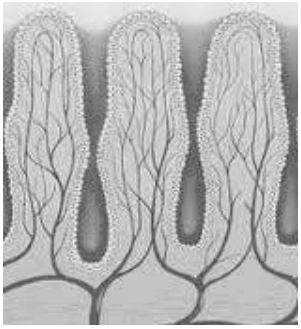
If we examine the bacterial populations of a healthy racing pigeon's digestive tract, we will find that it contains approximately 80% "Friendly Bacteria" (beneficial strains) and 20% of what we often call "Bad Bacteria". These so called "Bad Bacteria" are not bad when they are controlled, as they contribute in some functional way to the overall health of our birds. Normally, it is only when the populations of good bacteria fall below the 80% level, that the health of our birds begin to suffer from the presence of the so called "Bad Bacteria" strains.

The problem is really more complex than that, if the protections provided to the digestive tract by these colonies of "good bacteria" are diminished, then not only will the so called "Bad Bacteria" strains move to fill this niche, but also yeast, fungi and protozoa (like cocci and canker) will attempt to exploit the reduction of Good Bacteria colonies to further expand their populations, even becoming "pathogenic".



Ridges along Intestinal Wall

If we were to cut out a section of the intestinal lining from one of our birds and lay it flat under a microscope, we would find that it is not a smooth surface. Rather, the intestinal lining would appear to be covered with mountains and valleys and the whole surface would appear to be heavily forested. The folds (mountains) increase the surface area of the intestinal lining by about 100% and the trees (forest canopy) increase the surface area by 1000% percent. Yes, that is right 1000%.



Intestinal Villi

The trees of the forest, are called "villi" which are long columns of specialized tissues, extending up from the mountains and valleys of the intestinal lining, much like bristles on a hair brush. These specialized tissues serve many functions in the health and well being of our birds including nutrient absorption, pathogen identification and repulsion of pathogenic invasions. Along the surface of the villi are specialized cell tissue which identify pathogens and send warning signals to the immune system when the presence of pathogenic invaders is detected. Another type of specialized cell tissue called "goblets", elude secretions containing antibodies and immunoglobulins which inhibit pathogens from penetrating the epithelial lining of the digestive tract.

This whole system of epithelial cells, villi, specialized tissues and secretions is called the "mucosal barrier". This barrier is the first line of defense against pathogens, by the intestinal lining. It is above the mucosal barrier that the so called "good" and "bad" bacteria grow and live. When these bacterial populations are in natural balance, they protect the "mucosal barrier" and aid in nutrient breakdown and absorption. These bacteria also produce certain organic acids, hydrogen peroxides, bacteriocins and other by-products that are antagonistic to pathogenic growth. Anything that disturbs the proper balance and distribution of the so called "good" and "bad" bacteria, also disturbs the natural protection that these bacteria provide to the mucosal barrier.

When all defenses are working properly, 98% of all pathogenic invaders are neutralized and flushed out of the digestive tract without having penetrated the intestinal lining. However, when all defenses are not working properly, a pathogenic population may be successful in expanding its presence, displacing the "good bacteria" protective coating, overcoming the mucosal barrier defenses and damaging the epithelial cells that line the digestive tract .

Once firmly established, the pathogenic colony penetrates or erodes the intestinal lining. Even if we are later successful in using medications or antibiotics against the pathogenic colony, the protective barrier defenses have still been breached and a condition called "leaky gut syndrome" now becomes a threat to the health of our birds.

It takes time for the intestinal lining to heal itself from a breach, and to re-establish its barrier defenses. In the mean time, other pathogens may exploit this weakness to pass through the breach before it can be fully repaired, spreading their toxins throughout the body. One unfortunate side effect of using certain medications and antibiotics, is that a percentage of the mucosal secretions (rich with its antibodies and immunoglobulins) may be stripped away by the chemicals, further weakening the intestinal lining's ability to defend itself.

Unfortunately, many fanciers depend to heavily upon the cyclical use of medications and antibiotics to preemptively control populations of protozoa, bacteria, and fungi, while ignoring the consequences of their actions on the 80% populations of "Good Bacteria" and the natural barrier defenses of the intestinal lining. Remember, my earlier statement; "When these populations of protozoa, bacteria, and fungi are in their proper numbers and relationships, they

tend to inhibit and control one another, keeping the mix from becoming lop-sided and pathological".

Because most medications and antibiotics are targeted towards a specific pathogen or group of pathogens, we rarely kill off more than 1/3rd of the good bacteria populations during any one course of treatment. None the less, any time we treat the birds with medications or antibiotics we disturb the proper balance and distribution of the so called "good" and "bad" bacteria, and by extension disrupt the natural protective mechanisms that these bacteria provide to the mucosal barrier.

When we disrupt the bacterial balance we also disrupt the balance of yeast, fungi and protozoa in the bird's body. This is because established "good bacterial colonies" naturally produce certain organic acids, hydrogen peroxides, bacteriocins and other by-products that are antagonistic to pathogenic growth. Conversely, when we maintain the proper bacterial balance, we reap a "health dividend", because this natural balance within the bird "controls" the populations of bacteria, yeast, fungi and protozoa before they become "pathogenic", and this frees up the resources of the natural immune response to deal with other pathogenic infections as needed.

Those of you who are regular users of medications and antibiotics, think on this: because you use these treatments, you are diminishing the populations of good bacteria. One consequence of this is that the remaining populations of good bacteria are producing less organic acids, hydrogen peroxides, bacteriocins and other by-products which are antagonistic to pathogenic growth, this then produces an environment more conducive to the growth of pathogenic populations which may then lead to the need for more medications and antibiotics.

I am not saying that you should totally abandon the use of medications and antibiotics, only that you should investigate the "all natural" alternatives being used by many in the sport today. If there are natural products that inhibit the growth of pathogen populations and do not adversely affect the populations of good bacteria, then using these products have several distinct advantages.

- You maintain the good bacteria populations and receive the "health dividend" of those good bacteria
- You birds are not flushing out the toxins related to medication and antibiotic usage
- Pathogens are not building resistance to the medications and antibiotics that you use
- You do not need a medicine cabinet full of products to address every possible pathogenic infection
- Your birds are developing "Natural Immune Response"
- You are saving money!

Update August 27, 2011: I recently read a study done by a university that wanted to know what was the best way to infect a bird with Salmonella Typhimurium. The university wanted to know this information, so that when they conducted their scientific studies and needed to inoculate the “test” birds with Salmonella Typhimurium, that the infection would take hold.

The university study concluded that the best way to infect birds with Salmonella Typhimurium (including pigeons which naturally host Salmonella Typhimurium), was to use an antibiotic prior to introducing the Salmonella Typhimurium infection. The use of the antibiotic, provided an "opportunistic" void in the populations of bacteria which occupy the upper Mucosal Barrier, this void could then be exploited by the introduction of the Salmonella Typhimurium infection.

The lesson we should learn from this study is: Be careful, when (and how) you use antibiotics!

Antibiotic treatments, though often called for as a humane treatment for sick birds, do temporarily weaken the Mucosal Barrier, particularly the concentrations of "friendly bacteria". Antibiotics and medications are also known to cause mucosal erosion, sometimes eroding right down to the epithelial cells protecting the top surfaces of the villi. Damage to these protective epithelial cells, exposes the under structure or "basement" tissue of the villi to invasive pathogenic attack.

The villi do have a healing process known as "restitution" whereby epithelial cells adjacent to the erosion, multiply and migrate over the exposed basement membrane, restoring a protective covering. The "restitution" process is aided by a rapid contraction and shortening of the affected villi, which reduces the surface area of basement membrane that must be covered. However, until such repairs are completed, protective mucosal secretions restored, and the upper barrier re-populated with an infusion of "friendly bacteria", the host is more highly susceptible to pathogenic infection and colonization.

You can find more articles about pigeon health at **http://thenational.us/cms/forum/**

The Quiet Revolution in Pigeon Health and Performance

One loft at a time, we are changing the way fanciers address the health and performance needs of their birds. Our Max Immune Plus and Show Stopper products are the "All Natural" alternative to the constant cycling of medications and antibiotics. Our performance supplements are designed specifically for the unique needs of your race birds. Now, you have a real choice!

Max Immune Plus ~ New Formula contains more Active Antibodies, Immunogloblins and 233% More Probiotics. To be used as a preventive and during recovery from Youngbird Sickness, Circovirus, Adenovirus, Enteritis, etc. Destroys viruses, bacteria, yeast, fungus, allergens and other toxins. Contains antibodies against Rotavirus, Coronavirus, E coli, Clostridium, Salmonella, Paratyphoid, Streptococcus, Staphylococcus, Candida, H pylori, Cryptosporidium and many other pathogens. Also contains important minerals, vitamins, amino acids and **233% More Bio-Fresh probiotics** necessary for stabilization and recovery. One teaspoon per 80 birds once a week. May be applied to feed or in the water. **5% off when you buy with Show Stopper. 44 teaspoon container = $16.49 / 88 tsp. = $30.49**

Show Stopper ~ When you use Show Stopper and Max Immune Plus (on separate days), there is no greater protection you can give your birds then these two synergistic products. Show Stopper and Max Immune Plus can be used individually as excellent Immunity builders but **when incorporated together** into a health program, they create the most effective immune building health system for the racing pigeon sport available today. **Show Stopper**, is the only pigeon product on the market today that includes antibodies, immunoglobulins, and "Cocci-Gone", a scientifically proven "all natural" coccidiosis inhibitor. Additionally, we include special healing ingredients that condition and repair the intestinal wall lining from pathogen induced tissue scarring. Protection from tissue scarring, allows for better nutrient absorption and better waste elimination through the digestive tract. Show Stopper, also contains important minerals, vitamins, amino acids, and **233% More Bio-Fresh probiotics**. Fanciers who utilize Max Immune Plus and Show Stopper will have little need for medications or antibiotics throughout the year. One teaspoon per 50 birds twice a week on the feed. **5% off when you buy with Max Immune Plus. 50 teaspoon container = $14.49 / 100 teaspoon container = $26.80**

Five Star ~ Code Name: "The Hammer", This is the product you use when all else has failed. Developed as a "stand alone" product to be sold to fanciers who do not already use our Max Immune Plus and Show Stopper health system. Every year, we get calls from breeders, one loft races and futurity handlers because all hell is breaking out in their lofts. The usual complaints are one or more of the following: sudden deaths, the squirts, vomiting, rapid weight loss, crops full of grain, and young dying in the nest. The good news is that Five Star has resolves these problems in most situations. **50 teaspoon container = $ 14.49 / 100 teaspoon container = $26.80**

Power Drops ~ Super-rich nutritional delivery System + anti-microbial protection. Sick birds often have inflamed digestive tracks (caused by pathogenic infections) which inhibit their ability to digest nutrients. We call this condition "going light". Power Drops contains "all natural" anti-microbial ingredients (restores the digestive track to health), in a base of super-rich, easy to digest, supplemental nutrients, which allows the birds to quickly recover from their sickness while maintaining body weight and muscle mass. Additional uses: Many fanciers give Power Drops on the feed before basketing the birds for the race, others report Power Drops brings new life to old breeders (including a 14 yr old hen). Sick birds: give 3 - 5 drops as needed. **8 Oz. bottle = $9.95 / 16 Oz. Bottle = $18.40**

V/M Booster ~ Complete Vitamin Booster with Minerals ~ 1/4 tsp per 80 birds 50 tsp container **$7.95**
Vitamin B12 ~ Each gram contains 100mcg of B12 + 100mg of B Complex **100 grams = $15.99**

The Quiet Revolution in Pigeon Health and Performance

Bio-Fresh ~ Now includes 10 "Friendly Bacteria" strains. Our probiotics are grown for us by top North America culture labs, then placed in cold storage until shipped to you. Our product also contains antibodies and immunogloblins (to attack pathogens and strengthen the immune response), plus special pre-biotics which supply specialized micro-nutrients for better colony growth and effectiveness in protecting your birds. Studies show that these **pre-biotics increase the probiotic effect in your birds by 2 to 4 fold**. Every gram of our probiotic / prebiotic mixture contains billions of the colony forming friendly bacteria most helpful for pigeon health. One gram supplies **Ten billion Friendly Bacteria** + antibodies + immunogloblins + **2 to 4 fold** prebiotic boost. **110 grams only $20.95**

Super Creatine Plus ~ Only available through RacingPigeonMall. This "micro-encapsulated" three-in-one product gives 10 times greater utilization than regular creatine products (with none of the toxins associated with regular creatine usage). "Super Creatine Plus" is the **premier "performance enhancing" supplement** on the market today, secretly used by many top racing lofts in America today. **Breeding:** Once a week**. Racing:** Use on the day prior to basketing. **For quick recovery** give after returning from a race. Will replenish and rebuild the breast muscles quickly! **Don't be disappointed** with other creatine based products, get the proven leader and reap the same rewards as our many nationally recognized winners. **Highly concentrated = $26.99 (last about a year for most lofts)**

Muscle Max ~ Speeds muscle recovery after long or hard races by quickly super-hydrating the muscle fibers with needed enzymes, hormones, specialized proteins and cell nutrients to rebuild "torn down" muscle fibers. Adding Muscle Max to the drinking water for birds returning from a hard race, will speed up recovery by as much as 24 hours. Over the course of a race season, Muscle Max will allow your birds to compete at a "higher level" week after week, extending their ability to race throughout the season without burning out from muscle fatigue as the end of the race season draws nearer. Muscle Max, also replenishes the cells of the digestive tract lining, enhancing protection against pathogenic infection, increasing the immune response and allowing better nutrient uptake and toxin removal, all of which translates into faster fatigue recovery. **Give to the Breeders,** helps older cocks and all breeding hens to maintain their strength and vigor throughout the breeding season.
Highly concentrated, 3 drops per bird or 1 tsp per 25 birds; 96 tsp bottle = $30.95

Liquid Colloidal Minerals CoQ10, Grape Seed Extract, and Aloe ~ A unique blend of major minerals and 70 trace minerals, fortified with Aloe, Grape Seed Extract, and CoQ10. Adding Aloe and using purified water enhances minerals and nutrients bio availability. Minerals in colloidal form are the most absorbable form of minerals supplementation. Absorption is the most important factor to consider. If your birds can't absorb the supplement or nutrients from whatever source, little benefit can be obtained. Our nutrients and minerals are rapidly assimilated into the bloodstream ensuring maximum benefit. **8 Oz. bottle = $7.95 / 16 Oz. bottle = $14.40**

Super B ~ Water soluble B Vitamin complex. Substantially more concentrated than other products on the market today. Compare and you will see!!!! **~ 1/4 Teaspoon per 80 birds 50 tsp container = $7.95**

Muscle Powder ~ A complex carbohydrate / anti-catabolic / Race Performance blend, which increases muscle cell volume while positively affecting the rate at which nutrients are absorbed and waste products are released. Enhances strength and endurance, improves blood flow to and from the working muscles, speeds muscle recovery after hard races and improves mental acuity. One tsp per 25 birds twice a week during race season **48 teaspoon container = $16.49 / 96 tsp. = $30.49**

Priority Mail Shipping is flat rate of $9.45 regardless of number of items shipped
Website: RacingPigeonMall.com To Order, please call John Vance at: 949-496-4825

Treating your birds with antibiotics may weaken their defenses against flu and other viral infections

The results of a study released in April of 2011, are of particular interest to racing pigeon fanciers. It demonstrates the unintended consequences of messing with the natural immune response.

Mice were given the antibiotic neomycin, which is known to be effective against many of the so called bad bacteria, e-Coli for example. Neomycin, is also known to have a suppressive effect on many of the so called friendly bacteria strains found in the gut, including types of Lactobacillus bacteria.

After the antibiotic treatment, these mice were then stressed with influenza virus and when compared to the control group (which had not received the antibiotic treatment), the antibiotic treated mice were not able to mount a sufficient defense, against the influenza virus. Blood test showed that even nine days after viral exposure, the immune response of the Neomycin treated mice was still inferior to that of the control group.

The study found that neomycin-sensitive bacteria residing in the pigeon gut, contributed to immuno-competence in the lungs. This was in part accomplished by these gut bacteria encouraging the immune system to produce priming of Interleukin-1 beta and Interleukin-18.

Interleukin-1 beta and Interleukin-18 (when present in sufficient quantities) signals the presence of the influenza virus infection to the inate and adaptive immune responses, thereby initiating a defense against influenza and other viruses.

This study indicates that the composition of the commensal microbiota, found in the digestive tract, profoundly affects the immune system's response to respiratory influenza infection and that antibiotic treatment predisposes the mice to high viral replication in the lung.

Editor's Note: commensal microbiota are those microbiota which derives food or other benefits from other microbiota without hurting or helping them.

Mice, when treated with certain antibiotics cannot fight the flu as well as mice that haven't taken the drugs. Antibiotics quash the immune system's infection-fighting power by killing friendly bacteria living in the intestines. These friendly, or "commensal," bacteria help mount a defend against viruses by keeping the immune system on alert for viral invaders.

"There's a lot of beneficial effects of having commensal bacteria," says Akiko Iwasaki, a Yale immunologist who led the study. "This is one that was unexpected, but makes sense."

"What's fascinating about [the new study] is that there's a distant regulation of resistance to viruses by gut microbiota," says Alexander Chervonsky, an immunologist at the University of Chicago. Lungs are normally sterile, so it was a bit of a surprise that killing bacteria as far away as the colon would have any effect on how well the lungs could fight viruses.

Gut bacteria are constantly priming the immune system to make Interleukin-1 beta and

Interleukin-18, keeping the immune system vigilant against the flu and other viruses. This study shows that there are unintended consequences to unnecessary applications of antibiotics.

Though pigeons are not normally susceptible to avian influenza, like N1H5, the above study shows that the use of antibiotics may have a role in weakening immune defense against other dangerous viruses, such as, Adenovirosis, Circovirus, Herpes pigeon virus (also known as Infectious Catarrh), Avian Paramyxovirus (Australian outbreak included), pigeon paramyxovirus serotype-1 (PPMV-1), Avian Paramyxovirus type-1, Pigeon Pox, Avian Reovirus and more.

As a supplier of "All Natural" pigeon health products, I get calls every year from fanciers dealing with all kinds of health issues. I cannot help but wonder if the constant assault on "Friendly Bacteria" through the abuse of antibiotics and medications, is not seriously disrupting the natural immune response and bringing about many of the health problems we see today in the sport.

It seems that every year, the situation is getting worse not better, the wonder of antibiotics when applied in the wrong way, may well be a curse upon our sport.

If more fanciers reduced their dependance upon the constant cycling of medications and antibiotics, they would see a significant improvement in the health of their loft and the quality of the birds they produce.

The Law of Unintended Consequences

Competitive Exclusion and When Bad bacteria are Good bacteria!

Recently, I was reading, on the internet, a conversation between two racing pigeon fanciers, These two fanciers were arguing whether a specific medication might kill 99% or 100% of its targeted pathogen population. It was this conversation that caused me to write this article. My response was: Regardless of who was right concerning the kill rate of the medication in question, In most cases either result is not the desired result.

There is no way that we can maintain a 100% shield from bacterial, fungal or viral infections in our birds. It is not possible nor is it desirable. The best methodology that I know of, is to keep these pathogen populations at such low counts, that the bird's natural immune response is able to control the populations and maintain a balance within the bird.

So called evolution has created a successful symbiotic relationship between thousand of bacterial and yeast colonies which occupy "niches" in our biosphere (body). When this balance is upset, we get sickness. When the balance is maintained we have greater health and well being.

So, the conversation about whether a specific antibiotic kills 99% or 100% of a bacterial infections is rather moot. In a perfect world you would maintain colonies of ecoli, cocci, salmonella, etc. in manageable populations according the abilities of the bird's defense mechanisms.

For example, there are about 800 different bacterial strains that live in our mouths. Yet, our bottom jaw does not fall off from bacterial infection. Rather, these 800 different bacterial strains work together to keep the mouth healthy and free of disease and rot. It is in the best interest of these microbes to take care of their host (us) since if we die, they did.

Whether you believe in an evolutionary process or a process directed by intelligent design, this process has developed, a balance of microbes that occupy "in symbiotic relationship" different niche environments in our bodies. If we totally eliminate one of the populations, some other “opportunistic” fungal or bacterial population will fill the void and the new population may not play as nicely as the original occupants.

This was recently found out in reviewing data from a new vaccine for children under the age of two. A vaccine was developed that controlled the seven pneumococcal bacterial infections (pneumonia, meningitis and serious blood infections) which most often effect these children. The results were good and all were happy with the new vaccine and how it worked. However, it was later found that other pathogens were moving in to fill the niche that the "vaccine targeted pathogens" had originally filled, and the end result was that certain infections which historically had not been a problem were now surfacing in children under 2 years of age, and these infections were much harder to treat than the original pathogens. which had been targeted by the vaccine.

Sometimes, a pathogen (our word for an "infectious agent, or more commonly germ, is a biological agent that causes disease or illness to its host") does not function as a pathogen when

it's colony population is controlled but rather acts as a barrier against other more severe pathogens moving in and occupying the host. This would be an example of "competitive exclusion". They exclude other worse microbes by occupying the niche they have established in the symbiotic chain of command that functions to maintain health within the host.

As far as the vaccine goes, the new theory on this is that the company will now create a vaccine that not only targets the original seven pneumococcal bacterial infections but also an additional pneumococcal group that have been found to move in and occupy the niche left when the original pathogens were vaccinated against. This is the law of unintended consequences at work. We simply do not know everything that goes on "under the hood". Sometimes, we succeed in making one problem "better", only to find out later that another problem has been made worse by our actions.

We are finding that in some cases, you just cannot leave a vacuum as it will be filled by something and what fills the vacuum may be worse than the original occupant. For the racing pigeon fancier, who does not have the huge research facilities of major pharma companies, leave evolution alone and instead concentrate on population control of these so called "bad microbes" and not total elimination. A small colony allows the natural immune response to learn how to deal with the colony and control its population on its own. Only step in when the natural defenses are overwhelmed (high colony counts).

How one knows when to step in is the hard part. Some, utilize products called natural immunity builders in much of the same way others use medications and antibiotics on a weekly basis. For many, this is a good alternative health practice. In any case, the bottom line is that there are unintended consequences to our actions so the less we tinker with the natural processes concerning things that go on "under the hood" the better. Our goal should be to "assist" but try not to dominate the natural immune response.

In a perfect world, we would do all of our treatments of our breeders weeks before putting the birds together and not treat at all during the breeding season. In this way, the presence of small populations of these pathogens within the breeders, allows their immune response to pass "acquired immunity" to their young, both in the egg and in the pigeon milk. Treating the breeders during the breeding season only compromises this natural evolutionary process of passing immunity to the young and there may well be consequences to this over time. You can read more about this at: http://thenational.us/cms/node/18

Preparing for the Breeding Season

One should finish all courses of medication and/or antibiotic treatments at least three weeks prior to mating up their birds. The use of medications or antibiotics, truncates the natural immune response and severely limits the production of many necessary immune factors, which would normally be available to the embryo through antibody-mediated immunity conveyed from the hen to the embryo during egg production.

When you use medications or antibiotics you diminish the ability of the natural immune response to produce the many variations of T-cells, B-cells, macrophages, neurophils, interleukins, etc, normally present in a fully functional immune response. By waiting several weeks before putting your breeders together, the natural immune response can be brought back to its “heightened” state of readiness. Otherwise, the passive and adaptive immune responses may be unable to properly protect the embryo from exposure to pathogens during egg creation, passage through the reproductive track, and while incubating in the nest for 18 - 20 days.

Same methodology is involved in producing high quality pigeon milk, saturated with the natural immune factors which would normally be found in healthy pigeons and which would be passed to the babies in the milk. If you are treating with medications or antibiotics the pigeon milk will be deficient in passing needed immune factors to the youngsters to help defend them while they develop their own immune responses.

I cannot find the words to properly express the importance of letting the natural immune response "reign supreme" in your health program.

Treating with medications or antibiotics, is the humane thing to do, when a pathogenic crisis arises which has been verified by microscope or other type of lab testing. However, cycling through a series of medications or antibiotics simply because you are in the dark as to the health of you birds is the "bane of our sport" and weakens the natural immune system's ability to learn how to overcome these problems on its own through the process known as adaptive immunity.

The process of adaptive immunity, is the premier evolutionary process for survival. Keep turning it off, and your birds will be less able to adapt to the ever changing challenges brought about by medication and antibiotics abuse. Spend less time napalming the flora which naturally resides in your birds and more time learning about "sustainable micro flora communities" within the birds, that will naturally control the populations of the so called pathogenic microbes.

There are natural health programs, which “suppress” pathogenic populations without inhibiting the natural immune response. Max Immune Plus and Show Stopper, our natural health products, supports your bird's immune response at a heightened state of preparedness without the need for antibiotics or medications. Our products assist the immune response deal with pathogenic problems without damaging the good microbes which support natural immune response. This means that the eggs and the youngsters in the nest are getting the best possible immunity transfer from their parents.

Maintaining "sustainable micro flora communities" while supporting the natural immune response, is the best solution for maintaining pigeon health and producing superior youngsters.