Oregano for Racing Pigeons

The Power of Nature

©By Silvio Mattacchione BA MA

"In a time of drastic change it is the learners who survive; the 'learned' find themselves fully equipped to live in a world that no longer exists." ~ Eric Hoffer



In December of 2012 I was fortunate to read an enormously interesting article that appeared in the New York Times written by Stephanie Strom entitled "In Hopes of Healthier Chickens, Farms Turn to_Oregano".(http://www.nytimes.com/2012/12/26/science/chicken-farms-try-oregano-as-antibiotic-substitute.html?pagewanted=all&_r=0 in print it appeared on December 26, 2012, on page B1 of the New York edition with the headline: In Hopes of Healthier Chickens, a Pennsylvania Company Adds Oregano to the Diet)

The journalist (Stephanie Strom) interviewed one Scott Sechler the owner of Bell & Evans which has been raising chicken for generations. Family owned and operated Bell and Evans, it turns out, is a pioneer in the world of natural foods. Without a

doubt the founders of this company see the future coming like a freight train and are taking the required actions to take advantage of the opportunities that few others currently see. Scott Sechler leads the pack and his company will benefit in a huge way because of his insights. What does he see? Well he sees that all things "natural" (No antibiotics) is the future and consumers are demanding purer foods!



This Chicken Farm Uses Oregano Oil Instead of Antibiotics
In most large commercial chicken farms, chickens are fed antibiotics to keep them...

WWW.REALFARMACY.COM. | BY THE YARDENER

"It all starts with what we do and do not feed our chickens. They're raised on an all vegetarian diet of corn, extruded and expeller pressed soy beans, vitamins and minerals... and plenty of fresh well water. No antibiotics ...ever."

Reference http://www.bellandevans.com/content/raised-without-antibiotics

"Our chickens have a great life. I'm a very passionate chicken producer. I started when I was just a teenager. This is my life and my family business." Scott Sechler, Owner /Bell&Evans.

Reference http://www.bellandevans.com/content/raised-without-antibiotics



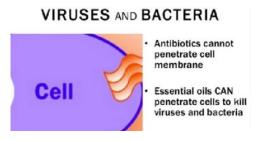
"Off and on, over the last three years or so, his chickens have been eating a specially milled diet laced with oregano oil and a touch of cinnamon. Mr. Sechler swears by the concoction as a way to fight off bacterial diseases that plague meat and poultry producers without resorting to antibiotics, which some experts say can be detrimental to the humans who eat the meat. Products at Bell & Evans, based in this town about 30 miles east of Harrisburg, have long been free of antibiotics, contributing to the company's financial success as consumers have demanded purer foods."

Reference http://www.nytimes.com/2012/12/26/science/chicken-farms-try-oregano-as-antibiotic-substitute.html2pagewanted=all&_r=0

How interesting it is to see that Bell and Evans who have been growing chickens since the 1890's really do attach such great importance to what they feed their chickens (after all we are what we eat) and in their pursuit of "purer foods" they are diligently avoiding antibiotics in their operations. Is there not a very real lesson here that we as racing pigeon fanciers need to pay attention to? Are our racing pigeons not considerably more valuable than poultry grown for human consumption? Should we racing pigeon enthusiasts not be as dedicated to our pedigreed athletes as Bell and Evans are to their poultry? Would it not be in our best interest to seek more natural ways of enhancing the immune systems of our birds

and then would these enhanced immune systems not translate into better performance that then translates into more valuable birds? Is the answer not obvious, because it certainly is to me!

Why Has the Use of Antibiotics become Such a Huge Issue Worldwide?



"Antibiotics destroy all of the bacteria in the body within 5 to 7 days. This reduces the capacity of the microflora to produce phytochemicals Once destroyed, it takes 9 to 12 months, or more, for the bacterial flora to regrow back. Without the normal bacteria, the body is now vulnerable for an extended period of time. Several gut pathogens can cause serious problems during

a course of antibiotics."

See more at: http://www.viralalternativenews.com/2015/12/why-you-should-use-essential-oils.html#sthash.k04D06Vb.dpuf

http://www.viralalternativenews.com/2015/12/why-you-should-use-essential-oils.html

"The gut flora is basically a collective term given to the group of microscopic organisms which live in your intestinal system. Also referred to as your microbiome, such bacteria and other microorganisms in your gut play few very important functions in your body, such as:

- Regulating the absorption of nutrients
- Strengthening your immune system
- Enhancing your disease fighting abilities
- Influencing the pace of brain development and memory
- Facilitating weight gain or loss"

Reference: http://www.bewellbuzz.com/body-buzz/healthy-digestive-system/

In humans we know that:

"More than 10 trillion bacteria normally inhabit the gastrointestinal tract, where they synthesize essential amino acids and vitamins, produce anti-inflammatory factors and help break down starches, sugars and proteins that people could not otherwise digest. Within and among these bacteria live bacterial viruses, or bacteriophages, which affect bacterial numbers and behavior as they either prey on bacteria or co-exist with them, shuttling genes from one bacterium to another.

This microscopic dynamic ecosystem affects our lives in ways we still do not fully understand."

Reference http://www.nature.com/news/2010/100714/full/news.2010.353.html

Antibiotics And Beneficial Gut Bacteria

Some have argued that antibiotics could be killing off beneficial gut bacteria *for good*! Wow that thought certainly blows me away! In fact in a recent post by Maryn McKenna in Science published 08-26-2011 this very issue is dealt with. She asks us to consider the work of Martin Blaser (who is The Chair of the Department of Medicine,) New York University Langone Medical Center, New York, New York 10016, USA. who argues that antibiotics' impact on gut bacteria may be permanent! In fact he indicates

that the early evidence from his lab and those of others as well, seems to point to a very, very serious negative outcome, that being that sometimes, our friendly flora never fully recovers. *Never fully recover?* Let that sink in a while and then consider the direction towards medication and regular antibiotic use in our racing pigeon sport beginning seriously in the 1970's. The killing of beneficial bacteria by antibiotics provides a very real opportunity for "unfriendly bacteria to overload our systems" producing potentially deadly toxins and then couple that with the very real possibility according to Blaser that this impact on the gut bacteria could be permanent and you then have (or certainly I have) a very real and pressing incentive *to look for 100% natural alternatives* in keeping our pigeons healthy! And with these considerations in mind you can understand why the Bell and Evans New York Times article was so very interesting for me.

Now given all that I have referred to earlier can you begin to understand why my great concern with antibiotic use and overuse in our racing pigeons and given these considerations here is the line in the Bell and Evans article that really caught my attention:

"But Mr. Sechler said that nothing he had used as a substitute in the past worked as well as oregano oil."

Reference: http://www.nytimes.com/2012/12/26/science/chicken-farms-try-oregano-as-antibiotic-substitute.html?pagewanted=all&_r=0

So the question really is, is it desirable and even advantageous to incorporate into our management systems for our racing pigeons products that are 100% natural, safe and effective? Why would we do so? And what products might these be? Well I can think of a few reasons to incorporate natural products into our management protocols for our pigeons, always assuming that is that the products to be incorporated actually work.

Number one anything that that can enhance our pigeon's immune systems and thus overall health would be priceless as health or should I say "super health" is our goal. Oregano it seems to me is one such natural product that requires our special consideration. Given all that I have researched to date oregano just might prove to be one of the most important changes or additions that serious pigeon fanciers could make to their current management protocols? Additionally if by use of naturally occurring plants say "oregano" we could break the cycle for various conditions like canker, coccidiosis, E.coli, salmonella and worms this not then be greatly to be desired? We could, in so doing, reduce our costs significantly given that we would no longer be treating for a host of conditions on an ongoing basis resulting in a serious decrease in a variety of medications and antibiotics that we might otherwise use. The reduction of stress(which comes about because we are no longer treating on an ongoing basis) leads to longer periods of sustained health, more successful breeding seasons, better developed youngsters, and increased performance

Positive Aspects of Oregano according to Dr. Mercola

Dr. Mercola the founder of the world's most popular health site (<u>www.mercola.com</u>), in a recent article, dated Feb. 1, 2014 viewed over 468,610 times and shared by email over 1,500 times describes so many of the positive aspects of oregano as follows:

"...we know that oregano contains vitamins A, C, E, and K, as well as fiber, folate, iron, magnesium, vitamin B6, calcium, and potassium. Additionally, oregano, which is sometimes called "wild marjoram" in Europe (and is closely related to the herb sweet marjoram2) contains potent phytochemicals that provide potential health benefits."

Dr Mercola then goes on to advise that oregano *may* indeed have a number of positive health benefits including, but not limited to, the following:

Antioxidants for Immune System Support

One active agent in oregano is rosmarinic acid, which is a strong antioxidant that may support immune system health. Oregano has one of the highest antioxidant activity ratings, with 42 times the antioxidant punch of apples. According to one study: 3

"...intake of herbs [including oregano] may...contribute significantly to the total intake of plant antioxidants, and be an even better source of dietary antioxidants than many other food groups such as fruits, berries, cereals, and vegetables."

Antifungal, Antibacterial, and May Even Kill MRSA

Carvacol and thymol, two phytochemicals in oregano, are powerful antimicrobials. Research has shown essential oils from oregano may kill the foodborne pathogen *Listeria4* and the superbug MRSA (making it a useful addition to hand soaps and disinfectants).5 According to one of the researchers involved in the MRSA study: 6

"We have done a few preliminary tests and have found that the essential oil from the oregano kills MRSA at a dilution 1 to 1,000. The tests show that the oil kills MRSA both as a liquid and as a vapor and its antimicrobial activity is not diminished by heating in boiling water."

Reference http://pubs.acs.org/doi/abs/10.1021/jf0510079

Studies have also found essential oils of oregano to be useful against certain Candida species.7

Georgetown University Medical Center. "Oregano Oil May Protect Against Drug-Resistant Bacteria, Georgetown Researcher Finds." ScienceDaily. ScienceDaily, 11 October 2001. www.sciencedaily.com/releases/2001/10/011011065609.htm.

Anti-inflammatory Properties

Oregano contains beta-caryophyllin (E-BCP), a substance that inhibits inflammation and may also be beneficial for conditions including osteoporosis and arteriosclerosis, 8 as well as metabolic syndrome. 9

Reference: http://www.medicalnewstoday.com/articles/266259.php

Useful for Upper Respiratory Infections

Oregano also has potential anti-viral activity, and a spray containing aromatic essential oils from five plants, including oregano, was found to significantly relieve symptoms "immediately" in those with upper respiratory infections.10

If you come down with a cold or the flu, oregano oil can also be useful. Generally, the higher the carvacrol concentration, the more effective it is. Interestingly, oregano encourages sweat production as a mode of detox, and ingesting it may help your body to get rid of unwanted phlegm in your lungs.

Reference: http://articles.mercola.com/sites/articles/archive/2014/02/01/oregano-health-benefits.aspx

Oregano is 100% Natural and according to all of the research I have looked at has many very unique potential health advantages that would certainly address a great number of the issues we are confronted with in our racing pigeon sport.



I have for some time personally used wild-crafted oregano oil drops for viruses like the flu with great results however I had not, previously, ever entertained the idea of the possible benefits of oregano oil on my racing pigeons and other livestock. That quickly changed in 2012 after reading that New York Times article. I immediately began a search to find the source of the oregano oil product used by "Bell and Evans". It was not an easy undertaking. It took some time for me to finally track down the oregano source to a Dutch company called "Ropapharm". It turns out that the company was incorporated in 1994 and by 1996 had released its very first oregano product and as luck would have it, it was a product specifically developed for use by racing pigeon fanciers. In time other natural products were systematically developed for cattle, pigs, sheep,

goats, chickens, rabbits, pet birds including finches, parrots and a host of others and lets not forget our turkeys, dogs and horses and cattle.



Oregano Ounce for ounce is one of the most antioxidant dense foods in the world.

The ORAC value for dried Oregano is an incredible 175,295. This is huge. The ORAC (Oxygen Radical Absorbance Capacity) unit, ORAC value, or "ORAC score" is a method of measuring the antioxidant capacity of different foods and supplements. It was developed by scientists at the National Institutes of Health. While the exact relationship between the ORAC value of a food and its health benefit has not been established, it is believed that foods higher on the ORAC scale will more effectively neutralize free radicals. According to the free-radical theory of aging, this will slow the oxidative processes and free radical damage that can contribute to age-related degeneration and disease.

...According to the U.S. Department of Agriculture, the herb with highest antioxidant potency is oregano, which has 3 to 20 times more antioxidant activity than the other herbs studied. Ounce for ounce, oregano is one of the most antioxidant dense foods, having 42 times the antioxidant activity as apples, 12 times more than oranges, and 4 times more than blueberries.

Learn more: http://www.naturalnews.com/024627_oregano_herb_oil.html#ixzz3mZeM4IyV

Who Is Ropapharm?



Ropapharm is an innovative Dutch firm that has been in existence for some 20 years. Founded originally by a Dutch investment banker, one Paul Mensink and a Dutch vet.In time Paul was approached by two German vets who were interested to test their natural oregano in the field of racing pigeons. Well these German vets were blown away by the positive results of the health of the pigeons tested. In time Paul began growing his own oregano plants on a 400 acre parcel of land in Turkey.

They began selling into the Chinese pigeon market in 1997 and this remained their biggest market until 2002. Their sales worldwide are now constantly growing as more and more fanciers become aware of the "power of nature".

They have since that time been engaged in the development, production, and sale of animal feed supplements based on their *fully natural oregano essential oil*. They were the first company in the world to develop animal feed supplements, additives and flavorings with oregano-oil as the active component. Their oregano is 100% natural, (not synthetic) patented world-wide including the USA and Canada, (the Canadian patent was issued in Jan 2012, based on the anti-inflammatory mode of action.) and their range of oregano products continue to be developed by veterinarians. Theirs is a unique formula that is high in antioxidants and vitamins, that works against bacteria, fungi and parasites. Just as important for us and I would say even more important for our racing pigeons their (CFIA has recently reviewed and authorized use and sale in Canada) Ropadiar®, brand, of natural products has the ability to substantially reduce the usage of antibiotics in racing pigeon applications. It is Ropapharm's belief (as it has certainly been also mine for a very long time) that it is of great importance for the health of both humans and animals to reduce the usage of artificial substances to an absolute minimum.

Reference: http://www.ropapharm.com/?lang=en

Bacteria Cannot Become Resistant To Ropa-B Oregano.

"Most importantly, oregano essential oil does not create harmful strains in the body and does not have side effects the pharmaceutical antibiotics do. Moreover, it is effective against a dangerous and even deadly bacteria, but does not produce biological changes in the body. Oregano essential oil nourishes the body and doesn't deplete it of nutrients like conventional antibiotics do."

Reference: http://www.viralalternativenews.com/2015/11/why-oregano-oil-is-one-of-greatest.html#sthash.rBEA6T01.dpuf

If you have ever taken the time to watch the hugely popular film "Big Fat Greek Wedding" you will remember that the patriarch of the family (Kostas "Gus" Portokalos, played by Michael Constantine) would always comment on the origins of names and words and invariably they would somehow always be Greek at their root. So if "Gus" was here he would, no doubt advise us that the name "oregano" comes from the Greek words oros (mountain) and ganos (joy) or "joy of the mountains". It should come as no surprise then that the distribution of oregano oil started in Ancient Greece. The Greeks were first to recognize and use oregano oil for medicinal purposes. The ancient Greeks believed it had many applications and that it was very powerful. Today we have been able to study the antiviral, antibacterial, antiseptic, antifungal, anti-pain, and inflammation attributes and can thus confirm what the ancient Greeks believed.

Hippocrates (considered the father of modern medicine) used oregano to treat illnesses related to the respiratory and digestive systems.

Reference http://izquotes.com/quote/294723

Active Healing Agents in Oregano

According to www.viralalternativenews.com Oregano oil contains four main groups of chemicals which are active healing agents.

"Phenols including carvacrol and thymol. They act as antiseptics and antioxidants. Terpenes including pinene and terpinene. They possess antiseptic, antiviral, anti-inflammatory and anesthetic properties. Linalool and bonreol are two long-chain alcohols found in oregano oil. They exhibit antiviral and antiseptic properties. Esters include linalyl acetate and geranyl acetate. They exhibit antifungal properties.

Although all these compounds possess healing properties, the most significant primary compound found in oregano oil is carvacrol. Scientific research has proved carvacrol to be one of the most effective antibiotics known to science."

http://www.viralalternativenews.com/2015/11/why-oregano-oil-is-one-of-greatest.html#sthash.rBEA6T01.dpuf http://www.sciencedailv.com/releases/2001/10/011011065609.htm

Not All Oregano Oil is Created Equal, So Go 100% Natural Not Synthetic

Wild oregano (Origanum vulgare) is an herb that is rich in phenols. Carvacrol is the most studied component in oregano. Synthetic versions of carvacrol (one of the active components of oregano) have been used for over fifty years, for disinfecting work surfaces and instruments, because of its strong antibacterial properties. Carvacrol is characterized by a spicy bitter taste and is an important component of our oregano. Wild oregano is sometimes confused with the sweet oregano which is used in the kitchen, but this spice is of a different type of plant (Origanum majorana), has a different composition and therefore, other properties.

Another important component of Wild oregano is thymol. An isomer of Carvacrol. Which means that Thymol contains the same number and the same type of atoms as Carvacrol, but differs in the way the atoms are interconnected. As a result, Thymol and Carvacrol have similar properties. Yet there are also differences.

Besides Carvacrol and thymol, there are many other substances found in wild oregano that we know of, among others: pinene, p-cymene, cis-ocimee, myrcene, gamma terpinene, beta caryophyllene, bisabolene, linalool, borneol, terpinene-4-ol, geranyl acetate, and linalyl acetate.

Reference: http://www.ropapharm.com/?lang=en

Natural Oregano Success Is a Function of the Synergy between All of Its Natural Components

An important part of the activity of Ropadiar® can be ascribed to carvacrol. The Ropapharm essential oil consists of at least 70% of this organic compound. Numerous scientific studies have shown that carvacrol has a strong activity against a broad spectrum of micro-organisms. Against bacteria, including:

Staphylococcus aureus, Escherichia coli, Pasteurella multocida, Streptococcus faecalis, Streptococcus agalactiae, Vibrio coli, Enterobacter aerogenes, Streptococcus uberis, Proteus rettgeri, Salmonella spp, Proteus vulgaris, Proteus mirabilis, Klebsiella pneumoniae, Corynebacterium pyogenes, Pseudomonas. aeruginosa, Cryptosporidiae spp., Streptococcus pyogenes anim.C, Erysipelothrix insidiosa, Mycobacterium tuberculosis and Treponema hyodisaenteriae. Against fungi, including: Aspergillus spp, Mucor spp, and Candida spp. Against parasites, among others: Eimeria spp, and Histomonas meleagridis. Thymol also contributes to the activity of Ropadiar®. Thymol is found to be very effective against certain micro-organisms. Since both carvacrol and thymol are found in oregano it is believed that oregano has a stronger effect, and possibly kills a broader spectrum of micro-organisms than carvacrol alone.

Wild oregano contains four times as many antioxidants as blueberries. These polyphenols mitigate oxidative stress, protect against free radicals, thereby preventing damage at the cellular level.

In animal studies carvacrol and thymol have been shown to have a blood vessel relaxing effect on the aorta tissue, laboratory tests also show a beneficial effect of oregano oil on glucose and lipid metabolism and a preventive effect of carvacrol on DNA damage in rats.

In Oregano, dozens of other components are identified, whose properties are yet to be explored. The function of many of these substances is still unknown. So there are many components in oregano that contribute to its activity, but ultimately the success of Ropadiar® is largely due *to the synergy between these components*. This means, the ingredients help, complement and strengthen each other. This is what the efficacy of their oregano product is based on.

Reference: http://www.ropapharm.com/?lang=en

In short, the real story of the Oregano products developed by and patented worldwide by Ropapharm for Racing and fancy pigeon enthusiasts is as follows:

- 1) The 1st oregano product in use worldwide successfully since 1995.
- 2) 100% Natural not synthetic.
- 3) Bacteria cannot become resistant to Ropa-B oregano.
- 4) Ropa-B Oregano improves the overall health of your birds.
- 5) Improved Health translates into improved performance.
- 6) Ropa-B Oregano can help keep your birds free of bacteria and fungus
- 7) Ropa-B is made exclusively from oregano oil extracted from oregano plants developed, patented and grown by Ropapharm in their own fields.
- 8) The Ropa-B powder 10% has no side effects.
- 9) The Ropa-B products were and are thoroughly tested by the TNO.
- 10) Ropa-B is proven effective against the following:
- 11) Coccidiosis
- 12) Canker
- 13) E.coli
- 14) Salmonella
- 15) Worms
- 16) Young Bird Sickness
- 17) It is a high-energy supplement.
- 18) Ropa-B powder is an insoluble powder that is added to our birds feed.
- 19) Ropa 10% liquid can be added to the birds water.

- 20) Ropa Oregano products can be used during breeding, racing, moulting, and the winter off season.
- 21) Ropa-B supports and maintains health and recovery before, during and after each race.
- 22) The Ropa-B products Can be used in combination with other products
- 23) GMP certified

Interestingly enough it is used by a host of really well known European fliers including Leo Heremans, Gaston Van De Wouwer, Karl Heinz Koch and others but is little known in North America but that is going to change quickly I suspect.

As I have already mentioned, three years ago I became aware of the use of oregano in the livestock industries including poultry and pork production. These forward thinkers wanted a 100% natural product that was 100% safe, certified organic, totally effective and easy to use. They found that oregano fit the bill but it was a long drawn out research effort on my part before I located the source of supply of this particular unique oregano. Unfortunately when I did locate the grower/producer the product had been submitted to the Canadian authorities for patent protection and upon receipt and issuance of the patent product and samples were supplied to CFIA for their review. So this whole process took almost 3 years before I had actual product in hand.



I waited diligently because I was very hopeful that this just might be the natural product to make a real difference to my pigeon management system. Finally in September of 2015 I received the "Ropa-B" powdered oregano and was able to have our first batch of non-GMO pellets extruded to my specifications using the ROPA-B 10% powder. Within two weeks I had my answer, the wait had been worth it, the droppings (my birds are fed 100% pellet no grains) were

perfect, the birds looked exceptional, plumage silky and soft beyond belief and the birds shone with health. Their wattles white, their eyes crystal clear and their breathing effortless. I had some of my closest friends try my new feed blend containing the oregano. Gardi Gamboa, Martin Hechanova and Sha Khan were not only delighted but actually ecstatic. In early November my joint breeding partner in Florida "David Clausing" incorporated the "*Ropa-B*" powdered Oregano into his own pellet blend and within two weeks he also saw the same benefits that I did and he is just getting ready to produce his second batch of feed as I write these words. Both David and I are excited about the coming 2016 breeding season. Why,



well I have seen the proof with my own eyes and the oregano by "Ropa" I believe is an incredible natural product whose time has come...

Successful pigeon racing is an incremental sport where each little advance in nutrition and management can improve overall health that in turn can translate into an advantage on race day. One loft racing is here to stay it is not the future because the future is already here and oregano is now part of that future for me and others who have come to realize that antibiotics are not the answer. I have come to believe that oregano is an indispensable component of a successful protocol that can easily translate into a winning advantage if you already have quality stock. I believe that oregano use may have played

an important role for Karl Heinz Koch in his 2015 South African Million dollar race win. Mr. Koch advises that he has been successfully using the Ropa oregano product for the past 15 years.

David Clausing and I have incorporated the 100% natural Ropa-B oregano powder into our custom pellets, we have incorporated the Ropa 10% liquid in the water along with the Ropa "Flite BOOST" another natural R product that has a very positive effect on our racing pigeons respiratory systems. Flite BOOST in combination with Ropa-B, make possible the optimal digestive and respiratory health of our flocks. We have also included the Ropa pre and probiotic into our feeding programs and I am now looking to test the exclusive vitamin mineral grit as well.

As I mentioned it took me a very long time to find the source of this oregano series of pigeon products but interested fanciers worldwide can quickly access the Ropa Global website to preview and order for their personal use. For any readers who are interested the Ropa pigeon range of products they can be viewed at http://www.ropastore.com/us/pigeons for USA based fanciers,

European readers can visit http://www.ropastore.com/global/pigeons

and Chinese fanciers can visit http://www.chinaxinge.com/company/skin/13/contact.asp?id=7716

FOOD IS INFORMATION ENERGETIC AND COMPLEX

I leave you all with the following thoughts from two of my favorite writers on health Dr. Kelly Brogan M.D. and Sayer Ji.

"... we have been programmed, for decades to believe in an automated universe – one that could be explained neatly through scientific cause and effect – and one that interfaced with our robotic bodies in predictable ways. In this model, nature is "mostly stupid" as Alan Watts would say, in that it could be easily mastered and put in its place of subservience. Germs are tedious annoyances out to get us. Diseases are mistakes. Medications and <u>vaccines</u> are applied to one and all. And food is caloric fuel for our body machines.

When you look at food as part of our relationship with the living world beyond our skin, you understand that <u>it is information</u>, energetic, and complex in ways that we don't have mechanisms to understand." ~ Written By: <u>Kelly Brogan, M.D.</u>

Reference http://www.greenmedinfo.com/blog/heard-glycemic-index-forget-about-it-1

FOOD COMPONENTS TALK TO ANIMAL CELLS REGULATING GENE EXPRESSION

"A groundbreaking new study published in Molecular Nutrition & Food Research titled, "Interspecies communication between plant and mouse gut host cells through edible plant derived exosome-like nanoparticles," reveals a new way that food components 'talk' to animal cells by regulating gene expression and conferring significant therapeutic effects. With the recent discovery that non-coding microRNA's in food are capable of directly altering gene expression within human physiology, [1] this new study further concretizes the notion that the age old aphorism 'you are what you eat' is now consistent with cutting edge molecular biology." ~Written By: Sayer Ji, Founder

FAIR USE NOTICE

This brief article contains copyrighted material the use of which may not always have been specifically authorized by the copyright owner. We are making such material available in our efforts to advance understanding of scientific, environmental, political, human rights, economic,

democracy, and social justice issues, etc. I believe this constitutes a 'fair use' of any such copyrighted material as provided for in section 107 of the US Copyright Law. In accordance with Title 17 U.S.C. Section 107, the material in this article or on this site is distributed without profit to those who have expressed a prior interest in receiving the included information for research and educational purposes. For more information go to: http://www.law.cornell.edu/uscode/17/107.shtml.

If you wish to use copyrighted material from this article or this site for purposes of your own that go beyond 'fair use,' you must obtain permission from the copyright owner.

*all photos, images or illustrations remain the exclusive property of their respective owners or copyright holders.