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***About antioxidants.***

### **What is antioxidants?**

If you want to take care of your dog's body on a cellular level to enable them to lead a healthy, active and performing life, then you should know more about antioxidants.

Antioxidants are molecule substances used by your dog's body to protect itself at cellular level from damage caused by oxidation.

### **What is oxidation?**

Oxidation is a process that causes damage in the dog's tissues through the work of free radicals molecule substances.

An antioxidants are then described as a chemical that prevents the oxidation of other chemicals.

Antioxidant are essential needed molecule substances "elements", naturally occurring in what you daily feed your dog, then actively involved in cellular processes that then will prevent or slows the breakdown of another molecule substances called "free radicals" by oxygen – this at internal cellular level within the body of your dog. Antioxidants then as chemical substances donate a cell molecule electron to the dangerous free radical molecule needing it **thereby** ... convert the free molecule into a harmless molecule.

"Various food items for your dog" do contain antioxidants and various vitamins, minerals, trace elements and other nutritious substances that are considered to be rich in antioxidants.

Just as one example - looking at some fresh organic vegetables, fruits, berries as daily supplement (antioxidant rich) of whatever you feed your dog.

There is no better natural easy available source for antioxidants as a portion % of what you feed your dog **as fresh produce**.

Vegetables and some berries **rich in colour** ... are an indication that their skins contain such vitally important elements as **phytonutrients**" like ... carrots, peppers, cucumbers, tomatoes, cauliflower, most berries and herbs.

**Of course organic fresh produce is exactly what you should consider - we talking about the APBT and feeding these magnificent athletes.**

If you are looking for antioxidant elements, know that there is almost nothing you will find in those tomatoes and cucumbers that were grown with the help of various dangerous chemicals, fertilizers, insecticides and preservatives - these contaminations kill the needed vitamins and antioxidants and may even then influence your dog's body's genes at cellular level.

### **Looking at commercial supplements:**

These supplements also containing these critical needed vitamins, minerals and trace minerals could also be considered **essential** that will allow the dog to consume enough "phytonutrients" to meet its antioxidant needs.

There are several benefits to maintaining sufficient antioxidants through food and supplements.

The most beneficial effect of antioxidants is protection for the body's cells - enhancing a stronger immune system defence in protecting the body from harmful diseases, maintaining the stability of blood clotting, sugar levels and revitalization of the libido.

A dog lacking in vitamins and antioxidants may also experience a very slow recovery from illnesses and injuries.

Antioxidant supplements may then be administrated as either herbal, natural or non-synthetic commercial supplements.

### **We are still talking about the APBT the game, sporting, active performing working dog.**

Then to know is that natural occurring nutrition rich in antioxidants is easier to be absorbed than synthetic supplements.

Absorption of synthetic supplements may take a longer period of time and then it is not natural.

In the case of **non-synthetic supplements**, the effects are more immediately seen because it is natural – just like Mother Nature intended.

It is for this reason that they are much easier to absorb and there is less likelihood of any side effects.

Vitamin and mineral supplements **also** have a number of additional benefits.

They not only contain the required “phytonutrients”, but many other nutrients - and because the dog can consume these purpose manufactured vitamin and mineral supplements without you having to worry about sugar.

This is one of the **greatest advantages** of vitamin & mineral supplements.

### **However;**

There is **no way** that nutritional commercial supplements can substitute for “**whole fresh produce**” – fruits, vegetables, berries, herbs and other healthy and important species appropriate foods.

Mostly supplements can therefore be given **as an addition to the feed pan.**

Then specifically to boost the number of vitamins and minerals you daily offer the dog - especially if you could only offer many of those commercially grown fruits and vegetables that may have been poisoned by pesticides or part of home cooking or commercial dry feeds.

The bottom line is that everything you feed your dog should be natural & well balanced.

Any dog’s diet should incorporate high antioxidants loads - no matter where they come from.

Fruits, veggies herbs and berries are not the only sources of antioxidants for your dog.

**All** these essential elements are naturally contained **in meat, fish and dairy and make part of the specific species appropriate food for our dogs** which is a great source of **protein** as well – perfect just as how Mother Natures intended it to be for your dog anyway.

You should always remember that when offering “vitamins and other supplements containing antioxidants”, it is still important to maintain a healthy natural diet for your dog.

The minerals and vitamins **from healthy species appropriate foods** are also **significant**, although a commercial vitamin supplements or antioxidant can provide it in a higher level.

Taking vitamins and supplements is also very useful when you the dog is on a restricted diet.

Always make an effort to include the right types of foods and antioxidant supplements in everyday dog’s diets.

Taking less than the required amount of antioxidants can make your dog prone to illnesses and other harmful effects on the body.

### **Explaining antioxidants.**

Anti, meaning “**against**,” and oxidant, meaning “**related to oxygen or oxidation.**”

These two words put together = antioxidant and antioxidant **then mean** something against oxidation – then the “antioxidants” **with the ability to fight and protect against the damage of oxidation.**

Looking at the term “**oxidation**”.

Oxidation is actually a normal physiological process of cellular activity in your dog’s tissue - but unfortunately these cellular processes causes a stress known as **oxidative stress** and cause “certain negative” **inter cell communication problems for your dog.**

These constant, daily, cellular phenomenon - workings inside your dog - occurs when the production of “harmful molecules” called “**free radicals**” become more damaging than what the antioxidants molecules inside your dogs can handle during cellular level activity.

Anytime a “molecule” comes into contact with oxygen, the molecule becomes “**oxidized**”, and it is inevitable that the cell involved **will** be damage or change characteristics.

As an example; - this is true for over ripe fermenting and smelling vegetables, plant matter, meat and vegetable protein - and therefore also your dog's "over ripe" skin infection, cuts, bruises or wounds – e.g. > such as an apple turning brown or a cut on the skin with infection.

Antioxidant is therefore a **"molecule substance"** capable of fighting and repairing the damage of "free radicals molecule substances" within internal cell level processes.

Oxidative stress - is therefore the stress put on your dog's body and immune system, when "free radicals molecules" are being produced faster than what the "antioxidants molecules" **in your dog's body can fight off.**

"Free radicals molecules" **is therefore** a "cellular chemically active molecule" that ... scientifically speaking ... has a "charge" ... then because of an "uneven number of cellular electrons" ... either too many or too few electrons ... and is therefore **unstable and destructive.**

"Atoms" - since all "atoms" in cells naturally want to be stable, these "free radicals molecules" take / steal "electrons" from the existing DNA cells in your dog's body, and from proteins within the dogs body functions.

Instead of just killing the cell, they damage it and cause total havoc - which is even worse and the cause more devastating diseases and **failure of cellular communication (recognition) problems.**

Looking at the term "damaging free radicals".

It therefore became **essential "but possible"** for the **dog owner** to avoid "free radicals" and the damage they cause" **with antioxidant rich supplementation in what you feed your dog.**

It is biologically impossible to avoid accumulating free radicals in the dog's body **because** they come from both external (environmental) and internal (from the body) sources.

Some environmental factors that can develop free radicals are ... pollution - sunlight, strenuous exercise and even X-rays.

Inside the dog's body, **free radicals** are "a by-product of metabolism" ... aerobic respiration, and inflammation".

As you can see, most of these **are impossible to avoid on a daily basis.**

Over the life years of your dog, with the continuous **internal war between antioxidants and free radicals** ... the battleground ... your dog's cells, tissues and organs experience lifelong wear and tear resulting in "**aging and degeneration**" **and** a significant free radicals build up **if antioxidants are not continuously reinforced (taken) in through the diet. This is where you can make the difference!**

### **Looking at the working of "antioxidants".**

Antioxidants are against free radicals - (an inside the body war at cellular level processes).

Antioxidants fight against the over population of internal free radicals by continuously neutralizing them, or by donating an electron or electrons to the free radicals until they become stable.

The **laws of nature** (in these processes) imply that the antioxidants then ... **will** become unstable by losing electrons - **that is why it is so important to replenish your dog's daily diet with – rich in antioxidants food items.**

The whole thing is **a constant sort of "molecular war."**

Now, before the work progress of antioxidants, the free radicals are free to take whatever electron they please from existing cell molecules within the dog's body, and it then will start a **domino effect**.

The second the first "free radical molecule" **takes an electron from an antioxidant molecule**, the antioxidant molecule is now missing the electron will turn around **and become a free radical molecule** and do the same thing as free radicals do.

The antioxidants work and purpose simply (in your dog's body) are to interrupting **this chain** of happening as explained above **or preventing it from starting in the first place**.

By you / the feeder ... supplementing your dog's diet **daily** with antioxidants ... it therefore **become essential** – and this is where **you** as feeder comes in for the rescue.

The most common recommendation about consuming antioxidants is **to make sure you offer a well-rounded diet rich in antioxidants**, getting an adequate amount from each food group in preparing **what your dog will eat**.

**Note!** >> Since most of the high antioxidants are vitamins, minerals from raw and fresh produce – meats, fish, vegetables, fruits, berries and oils - **it's important** to note that excess amounts of those can also cause problems.

Looking at what species appropriate foods for dogs high in antioxidants do.

*See articles specifically featuring food items with antioxidant substances.*

**Looking at antioxidant containing food for your carnivores dog:**

**Fresh produce** – vegetables, fruits, berries, vitamins, minerals & related oils.

Looking at Vitamins A (beta-carotene)

Vitamin A is a powerful free-radical scavenger that helps to protect the heart and oxygen carrying path ways.

#### Looking at Vitamin C

Vitamin C not only works as a strong antioxidant but also protects other antioxidants like vitamin E.

Vitamin C may be particularly helpful in protecting the cells of the brain and spinal cord from free-radical damage.

#### Looking at Vitamin E

Vitamin E works to prevent oxidation of lipids that compose cell membranes.

#### Looking at Selenium.

#### Looking at Vitamin A: beta-carotene.

#### Looking at Alpha lipoic acid.

Enhances the antioxidant work of vitamin C, vitamin E, and glutathione.

#### Looking at Zinc and selenium.

Zinc and selenium work synergistically with vitamin E.

In addition to helping vitamin E, selenium is important in the production of the key antioxidant enzyme "glutathione peroxidase", which targets harmful hydrogen peroxide and converts it to water.

Zinc is an antioxidant by itself but also a key component of the enzyme "superoxide dismutase (SOD)", which neutralizes the most common and possibly most dangerous free radical, "superoxide".

#### Looking at L-cysteine

L-cysteine helps produce glutathione and also helps detoxify the body of other pollutants.

#### Looking at N-acetylcysteine.

N-acetylcysteine boosts the production of glutathione, which is key to protecting and reversing cell damage.

#### Looking at OPC's.

OPC's are water soluble, making them easily absorbed by the body.

They are also able to cross the blood-brain barrier, helping to provide antioxidant protection for the brain and nervous system.

Looking at Polyphenols.

Looking at Flavonols.

Looking at grains, beans, legumes, tea, hazelnuts, pecans.

Looking at Herbs.

**Looking at many other vitamins, minerals, trace minerals, super fruit and berries formulas contain antioxidants.**

Mangosteen - has been one of the most popular supplement ingredients on the market. Some of the main benefits include a stronger immune system, anti-inflammatory benefits, and improved energy.

Acai berries - is labelled it as one of the top-10 superfoods (this is something you can invest in.

It has one of the highest ORAC values of any known fruit.

Acai is loaded with other nutrients including vitamins B1, B2, B3; vitamin C; vitamin E; omega 6 and omega 9; calcium; potassium; and more.

Acai supports higher energy levels, a stronger immune system, improved mental function, and better overall health.

Jupiter berries

Indian goose berries

Noni fruits of "Morinda citrifolia" —has been traditionally used for its boost to the immune system and its anti-inflammatory and antioxidant properties.

Goji (Wolf berries) berry —are very rich in antioxidants – this is also something you can invest in. They also have more vitamin C than oranges and more beta-carotene than carrots. They are also a good source of B vitamins.

Pomegranate fruit - with three times the antioxidant content of red wine, pomegranate is still one of the most nutritious fruits, believed to be beneficial for keeping a healthy cardiovascular system and maintaining healthy blood sugar levels.

Looking at other various fruit and berry blend antioxidants.

Raspberry

Wild black Cherry

Blueberry

Elderberry flavonoids)

Resveratrol - for increased endurance and prolonged life.

Looking at grape skin & grape fruit seed extract with polyphenols.

Raspberry, wild cherry, blueberry, elderberry, and grape seed extract.

These blend provides a variety of antioxidants from multiple fruit and berry sources.

Other ingredients: Gelatin, magnesium stearate, rice flour, and stearic acid.

**Caution!** >> Pregnant or nursing dogs, puppies under 6 months and individuals with a known medical condition should consult a Vet before using this or any dietary supplement.

Looking at beta-carotene - Beta-carotene is the pigment that gives carrots, spinach, lettuce, tomatoes, sweet potatoes, broccoli, cantaloupe, winter squash, fruits and herbs their characteristic colouring - similar molecule, "annatto" is used in cheeses, and another famous carotenoid dye, saffron is used to colour rice and other foods.

Beta-carotene along with alpha-carotene, lycopene, lutein, zeaxanthin and beta-cryptoxanthin are the **principal** dietary carotenoids.

Beta-carotene is the most potent precursor to vitamin A, but its conversion to vitamin A in the body is limited by a feedback system.

It can be converted into vitamin A (retinol) if the body needs more vitamin A.

If the body has enough vitamin A, instead of being converted, beta carotene acts as an antioxidant which protects cells from damage caused by harmful free radicals.

It is an important **antioxidant** in its own right and one that can only build up to toxic levels in rare circumstances.

Beta-carotene is considered a conditionally essential nutrient.

Beta-carotene becomes an essential nutrient when the dietary intake of retinol (vitamin A) is inadequate.

**Note!** - Beta carotene is not destroyed by cooking which, in fact, may make it easier to absorb.

In dietary supplements, beta-carotene is available as synthetic all-trans beta-carotene, beta- and alpha-carotene from the "algae Dunaliella", and mixed carotenes from palm oil.

### **Looking at the importance of antioxidants in your dog's diet.**

Antioxidant is specific chemical molecule substance found within the dog's body - enhanced by the diet - that will prevent or slow the breakdown of another

"radical internal interfering molecule substances – free radicals" by exposure to oxygen within cellular level inside the body of your dog.

Antioxidant molecules (perfect molecules with 2 electrons) donate an electron to the "free radical molecules" (shorting an electron) and thereby

convert this free radical molecule to a harmless molecule.

Looking at the importance of supplementing with antioxidants or as part of what you feed.

Antioxidant as part of the diet or as supplements - enter and populate their activity inside the dogs body cellular workings. If you want to take care of your APBT dog's body cellular functions - then to enable the dog to lead a healthy active sporting working lifestyle and live a long and healthy life, you should know more about antioxidants and then supplement certain antioxidant rich food items in the daily diet you offer.

These are kinds of food items (rich with antioxidants) become very important.

You should know that it is essential for your dog to consume a broad spectrum of foods that are known for high antioxidants levels.

Many fresh produce like high colour vegetables, fruits, berries, meats, fish, dairy herbs, dairy, seeds, vitamins, minerals and trace minerals are considered to be antioxidants.

### **Looking at high "in colour" fresh produce.**

There is no better source for antioxidants as these.

High in colour fresh produce is an indication that their high colour skins contain such vitally important elements as "phytonutrients".

However, the quality of fresh produce also becomes important.

You cannot simply go to the supermarket or vegetable and fruit market and buy some of those cheap and tasteless produce.

Of course organic food is also unbelievably better.

If you are looking for antioxidant elements, there is almost nothing you can find in those fruits and vegetables that were grown with the help of various dangerous chemicals, fertilizers preservatives and pesticides – these grown produce containing substances that kill most of the vitamins and antioxidants and may even influence your genes.

Only organic produced food (just like Mother Nature intended it for dogs as carnivores) are rich in all the vitamins, minerals and antioxidants required by your dog's body.

However sourcing organic natural produce food items become a challenge.

That is why there must be another solution that can help dog owners to offer enough "phytonutrients".

Then - looking at commercial antioxidant supplements.

A solution is vitamin, mineral and oils from commercial supplements. There are various antioxidant supplements from which you may choose.

You may get your dog's body's needs met through supplementing different types of food items containing antioxidants –antioxidant supplements might be the most effective technique to be certain your dog gets the proper amount of antioxidants.

A dog diet lacking in vitamins and antioxidants may experience a very slow recovery from illnesses and injuries.

However, you can easily remedy the situation by maintaining your dog's proper level of vitamins minerals oils and antioxidants.

Antioxidant supplements may be administrated as either herbal or natural, both having great effects in improving health.

Notable effects of antioxidants include prevention from many types of diseases, maintaining the stability of blood clotting, and revitalization of the libido.

Consuming a healthy balanced diet and proper nutrition with antioxidants become of utmost importance in achieving your dog's healthy body.

Looking at non-synthetic antioxidants supplements.

Non-synthetic supplements are also available - which can also help maintain body's antioxidant health.

Compared to commercial synthetic supplements - non-synthetic supplements are easier for the body to absorb.

Absorption of synthetic supplements may take a longer period of time.

In the case of non-synthetic supplements, the effects are more immediately seen.

It is for this reason that they are much easier to absorb and there is less likelihood of any side effects.

You cannot avoid the production of free radicals in your dog's bodies, but can limit their effects.

Antioxidant supplements to the feed pan counteract free-radical activity destroying free radicals.

### **Looking at fresh produce in your dog's diet.**

Fresh produce - vitamin, mineral and oils and supplements have a number of super additional benefits.

They not only "contain" the required "phytonutrients", but also **many other nutrients** - and can be even healthier than the little quantity of some fruits and vegetables you might give.

Your dog can consume vitamin and mineral supplements without having to worry about calories and sugars.

This is one of the greatest advantages of vitamin and mineral supplements for your dog.

However, there is no way that nutritional supplements can substitute for fruits, vegetables, herbs and oils and other healthy and important foods items rich in antioxidants, vitamins, minerals and health improving oils.

Commercial supplements should be taken **as an addition**, to boost the number of vitamins and minerals you give in your dog's food daily - especially if you dog consume many of those commercially grown fruits and vegetables that may have been poisoned by pesticides.

The bottom line is that everything should be well balanced - including the diet, which should incorporate antioxidants no matter where they come from.

**Know this!** Fruits and veggies are not the only sources of antioxidants.

**Looking at antioxidants in various raw meats and fish cuts the way Mother Nature have made proviso for this.**

These elements are also contained in meat dairy and fish which is a great source of protein as well.

You should always try to give the amount of nutrients that your dog's body requires in order to stay healthy.

You should also always remember that when you are giving vitamins and supplements containing "antioxidants", it is still important to maintain a healthy diet.

The minerals and vitamins the body receive it from **healthy foods** are also significant, although vitamin supplements can provide a higher level of antioxidants.

Offering vitamins and supplements is very useful when you offer a restricted diet or the dog is otherwise unable to consume with the foods you offer from which you should achieve the proper nutrients.

Always make an effort to include the right types of foods and antioxidant supplements in your everyday offered diet – be aware of species appropriate foods for carnivores – raw meats and fish.

Consuming less than the required amount of antioxidants can make your dog more prone to illnesses and other harmful effects in the dog's body.

You may find different vitamins and supplements that can provide sufficient antioxidants for your dog's needs; just remember that you should also offer diets within the right types of foods and practice a healthy lifestyle.

### **Looking at Bio-oxidate defence?**

Bio-Oxidate defense is a **100% safe**, non-addictive natural herbal remedies formulated by a field of natural medicine.

Bio-Oxidate defence can be used consistently to safely support cell integrity.

Bio-Oxidate defence contains a selection of herbs high in antioxidant properties that are well-known for their supportive function in maintaining healthy cellular processes.

Bio-Oxidate defence **supports the body's natural ability to fight harmful free radicals**, thereby helping to maintain routine performance of bodily systems and encourage a slower hand of time.

The formula remains true to the whole spectrum method of herbal extraction, ensuring the bio-availability and balance of all the active ingredients contained in the remedy and tenures.

This method of supplements also significantly reduces the likelihood of side effects and maintains all active ingredients in perfect balance – exactly as Mother Nature intended.

Looking at the natural **herbal** antioxidants – this is within any feeders capabilities.

Natural remedies herbs and tinctures have been used in traditional medicine for thousands of years to support the body's ability to support health on a cellular level.

*{See herbal tincture articles and recopies on this website.}*

Natural herbal antioxidant supplement to support the common aging process, cell integrity with natural antioxidants to discourage aging due to lifestyle factors, supports the cell integrity of each cell in the dog's body.