



# Pet Essential Nutrition Quarterly

Q2 2016



## 2016 Global Pet Expo in Orlando, Florida, U.S.

is the pet industry's largest trade show featuring the newest, most innovative pet products.

The 2016 Show featured 15,478 pet product buyers & Industry Professionals, 3,218 booths and more than 3,000 new product launches. A truly Global show with 24% of exhibitors & buyer being international with 76 country's represented. The trends were again Grain free with the new twist on novel protein sources and named carbohydrate sources such as wild boar with green garden peas. How about a Bayou blend with alligator & catfish to show the native-wild diet trend is alive



and well. The Rustic and Farm theme of products was more notable and kibble plus products with dehydrated meat, fruit, & veggies was again strong. The quest to differentiate and innovate is alive and well in the Pet Food industry. The Global Pet Expo is truly where you experience the pet industry trends.

Sincerely,  
Brent Kirn,  
Pet Food Strategic Account Manager, NA



## Are dietary antioxidants important?

There is a growing body of evidence demonstrating that antioxidants benefit both man and animals. Appropriate antioxidant nutrition therefore has a role to play in the development of functional pet food products designed for a specific life-stage, lifestyle or activity level and support functionality of food products designed to address specific health or wellbeing concerns.

It starts with free radicals. A free radical is a molecule that contains an unpaired electron and it is this property that renders it dangerous, as it reacts with substrate molecules such as cellular lipids or DNA to obtain the missing electron to stabilise itself. The presence of free radicals in the body is however a fact of life. During normal metabolic reactions and aerobic cellular respiration, free radicals are actually produced, originating from the incomplete consumption of oxygen. In addition, the immune system produces free radicals as part of its normal function to destroy invading bacteria.



Although free radicals are important for immune system functionality, it is also important that their production is kept in balance. When the oxidation of cellular lipids and DNA proceed unchecked the condition of oxidative stress and inflammation is observed. Antioxidants help maintain oxidative balance in the body.

Antioxidants are any substance, that when present at low concentrations compared with the oxidizable substrate e.g. DNA, significantly delay or inhibit

the oxidation of that substrate, therefore helping to protect DNA and lipids from free radical damage. In our own and our pet bodies, nutritional and cellular antioxidant systems are in place to manage free radicals, and reduce their impact on otherwise healthy cells. There are three lines of antioxidant defence systems in the body.

Line	Mechanism	Antioxidant
1	Prevention of radical formation	Superoxide dismutase Glutathione peroxidase Metal binding proteins
2	Prevention or restriction of chain reaction once radicals are formed	Vitamin C, E, A Carotenoids Flavonoids Polyphenols Ubiquinols Glutathione
3	Repair of damaged molecules	Catabolic enzyme systems

The body's natural antioxidant defense is based on a collection of systems. All the antioxidant systems in the body are dependent upon dietary supply of key nutrients, such as vitamins, carotenoids and trace minerals. The main dietary antioxidants are the carotenoids, such as beta-carotene, vitamin E, vitamin C and also the trace element selenium. There are also other antioxidants such as the flavonoids and polyphenols that are naturally found in certain fruits, vegetables and their extracts. These other antioxidants are more than likely to work synergistically alongside the main dietary antioxidant vitamins.

Compelling data exists to support the addition of dietary antioxidants to companion animal products. Optimum Vitamin Nutrition guidelines by DSM reflect values for the antioxidant vitamins E, C and beta-carotene, aimed at benefiting the long-term health and wellbeing of pets and for the support of functional claims.

Percent of pet owners that <b>strongly agree</b> with the statement	Top 2 box
It is important to help my dog/cat remain active as he/she grows older.	77%
Antioxidants fight free radicals that form in the body with increased activity.	66%
Antioxidants, which fight free radicals, slow down the aging process.	68%
Antioxidants like vitamin E and beta-carotene will help boost my dogs immune system response to healthy adult levels.	72%

SOURCE: DSM 2011 and 2015 U.S. Pet Consumer Studies by MetrixLab

### Antioxidants are important for pets

There are many aspects to how consumers view antioxidants. When examining the influence of consumer insights, it is prudent to focus on a single aspect, for example the impact of antioxidants on ageing pets, one of the key reasons they are used as a nutrient. This is relevant because we see a strong global trend towards companion animals living longer and spending more years in the senior life stage.

Since free-radicals are produced during normal metabolic reactions and aerobic cellular respiration in the body, simplistically, it is a matter of the animals antioxidant status that will have the greatest influence on related health indicators. It is also well understood free-radical production increases with activity regardless of age and antioxidant status impacts health as an animal ages.

### What do pet owners believe?

Results from the DSM U.S. pet consumer studies conducted by MetrixLab in 2011 and 2015 help bring clarity to this question. Such as, 77% of U.S. pet owners

strongly agreed that it is important that dogs and cats remain active as they age. Consumers own understanding that they will remain healthier with age if they remain active, a truth demonstrated by scientific evidence, supports this belief. Almost 70% of these pet owners connect free radical formation to activity and the ageing process. Consequently, the argument that their pet will need more dietary antioxidants as part of a healthy and active lifestyle, especially as they age, is easily accepted opening the door to products containing a variety of antioxidants.

The next challenge is identifying which antioxidant ingredients pet owners trust. Sense the human dietary supplement industry has helped educate these consumers, it is not surprising we saw extremely strong responses to statements about the antioxidants vitamin E and beta-carotene supporting immune function in adult dogs.

As a leading supplier of antioxidant ingredients, DSM Nutritional Products is well positioned to help support pet food and treat formulations emphasizing the benefits of antioxidants.