

The Five Supplements Every Pet Needs PART ONE

By Douglas Knueven, DVM

We've all heard the old adage, "You are what you eat." It certainly is true that the body can only build tissues (muscle, bone, brain, etc.) with the raw materials we provide. This same concept is valid for our canine and feline companions as well. Sometimes even the slightest deficiency in a key nutrient can have devastating results. It behooves us to be certain to provide our pets with the best possible nutrition. In order to understand the need for nutritional supplementation we must first find out the basics of companion animal nutrition.

So who should you turn to for dietary advice, your veterinarian? Not so fast. According to a recent survey published in the Journal of the American Veterinary Medical Association, nutrition training in veterinary schools is inadequate and the quality of continuing education on nutrition is inferior. While in veterinary school, I remember having only a single, one-hour lecture on pet foods and it was sponsored by a major food company. In school we were basically told that the food companies know what they are doing, "Just recommend a quality pet food." After a time in practice I began to ask the question, "Do the pet food companies really have it all figured out?" I decided to research the issue, and this is what I discovered.

The contents and labeling of commercial pet foods is governed by the Association of American Feed Control Officials (AAFCO). This group is made up of people from the pet food industry -- talk about the fox guarding the henhouse. It is up to AAFCO to determine that a given pet food is "100% complete and balanced." There are two methods AAFCO uses to accomplish this.

The first, a feeding trial, involves feeding the food to as few as eight animals for 26 weeks. The pets are weighed and given a physical exam before and at the end of the study. Also at the end their blood is tested for hemoglobin content, red blood cell count, a liver test and the albumin level (and the taurine level in cats). Based on this meager data, a food can be deemed appropriate as the only food source for the life of an animal.

The second way AAFCO determines the fitness of a pet food is called a food analysis. For this, a sample of the food is tested for the nutrients in the AAFCO nutrient profile. The profile list includes protein, fat, fiber, ash, vitamins and minerals -- thirty-six ingredients in all. This looks pretty good until you realize that there are over forty known nutrients and hundreds more are currently being investigated. And, what about nutrients yet to be discovered?

According to Dr. David A. Dzanic, the veterinarian in the FDA's Center for Veterinary Medicine, "The formulation method does not account for... the availability of nutrients. Yet the feeding trial can miss some chronic deficiencies or toxicities." Dr. Quinton Rogers, professor of physiological chemistry at the university of Cal., Davis adds, "Although the AAFCO profiles are better than nothing, they provide a false security." Finally, Dr. Tony Buffington, the nutritionist at the Ohio State Veterinary College had this to say, "The recommendation to feed one food for the life of an animal gives nutritionists more credit than we deserve."

These comments are not very reassuring for the pet-owning public. In fact, you do not have to look far for evidence that "100% complete and balanced" diets have had

deficiencies. Many cats died of heart failure until it was discovered in the late 1980's that the deadly disease, cardiomyopathy, was caused by a diet deficient in the amino acid taurine. Current research is even more intriguing.

In 2004, the Iams Company released a study that explored the effect of dietary fish oil on canine intelligence. The theory was that since 5% of the brain is composed of DHA (one of the essential fatty acids found in fish oil), this could be an important nutrient. This study focused on the developing brain.

For this research, pregnant dogs and (after whelping) their puppies were divided into two groups. The study group was fed Iams diet plus fish oil, while the control group was fed just Iams diet. At nine weeks of age, the offspring were started on a one-month training/testing period designed to gauge the individual's intelligence. Incredibly, the training performance index for the fish oil group was double that of the control group. This led the researchers to conclude, "When you consider that the number one killer of dogs is euthanasia due to behavior problems, we should be recommending high-DHA diets."

I agree with this conclusion; however the researchers did not acknowledge an important point. Since the control group (the less intelligent dogs) was fed Iams diet -- which according to the label is 100% complete and balanced -- then it follows that dogs are inherently stupid but with this "new" nutrient we can make them smart enough to keep alive. On the other hand, perhaps this study points to the fact that commercial foods are not complete and balanced, and it is our arrogance about nutrition that has led to the deaths of dogs whose behavior problems stemmed from malnutrition.

It is likely that many other canine and feline health conditions are actually due to dietary deficiencies. Let's face it; even the experts don't know everything. Obviously, pets need supplements. But, before I go into my top five, we need to look at the pitfalls of purchasing supplements. The major issue is reliability. Because there is little federal oversight of nutritional supplements, you cannot be sure that you are getting what the label says.

For example, a study published in June, 2000 showed that only 6 out of 24 store-bought glucosamine supplements met label claims -- some contained as little as 25% of what the label said. The same study showed that 26 out of 32 health food store Chondroitin supplements had less than 90% of label claims and that 14 of them had less than 10%. Standards for supplements do not match those for medications and you cannot trust the labels. If you buy the bargain brand you are probably wasting your money. So who or what can you trust? Experience!

This is where your holistically-minded veterinarian comes in handy. There are certain brands of supplements and particular products that I have discovered through trial and error over the years that I know I can trust. I am not saying that all other supplements are inferior, just that I know that these work. Your local veterinarian will have his or her own favorites. So here are my top five supplements that all pets need, in order of importance.

SUPPLEMENT NUMBER ONE -- A Balanced Multivitamin/Mineral

Vitamins and minerals are nutrients the body needs to function properly and cannot manufacture on its own. As we have seen, nutritional deficiencies have been found in commercial diets. Although the deficits are corrected as they are discovered,

more are possibly lurking in the next bag. Besides, the vitamin and mineral content of pet diets is based on "average" animals. Stresses such as surgery or illness and athletic performance such as agility cause a need for extra nutrition.

Additionally, the nutrition in pet foods is linked to calories. For example, if the food bag says that, based on his weight, a particular dog needs 3 cups of food, then that is what he needs to get the required vitamins and minerals. If the dog gains too much weight on this quantity of food (a very common situation) and the owner cuts the amount fed, then the animal's nutrient intake will likely be deficient. For these reasons I recommend that all pets get a good multi-vitamin/mineral supplement.

To understand my specific choice of vitamins, you need look more closely at the vitamin industry and research. Most vitamin supplements consist of synthetically made chemicals. However, if you listen closely to the reports on nutrition you often hear statements like, "Researchers have found that people eating foods high in such and such nutrient have such and such health benefit." Many times when studies are done using the same nutrient from a synthetic source, there are no health benefits. It is difficult to improve on Mother Nature so supplements made from whole foods are best.

My personal favorite multivitamin/mineral supplement is the *Standard Process* products, *Canine Whole Body Support* and *Feline Whole Body Support*. *Standard Process* is the oldest human supplement company in the US and for several years now has offered animal products. Their claim to fame is that instead of making synthetic vitamins, their products are made by concentrating the nutrition in whole foods, most of which are grown on their own organic farms. I've seen great responses to their products.

SUPPLEMENT NUMBER TWO -- Fish Oil

Due to the Iams study quoted earlier plus much more research, all pets need fish oil. Part two of this article will focus exclusively on this amazing supplement and why it is the best source for omega-three fatty acids for animals.

SUPPLEMENT NUMBER THREE -- Digestive Enzymes

Digestive enzymes are substances made by the pancreas and excreted into the intestine to further break down food particles so they can be absorbed into the bloodstream. Ample enzymes are essential for the body to absorb all the nutrients from food. Even healthy animals need extra digestive enzymes.

A closer look at enzymes reveals that every living cell contains enzymes that help it function. When an organism dies, the cell enzymes are released and begin a self-digestion action called autolysis. So food, whether plant or animal, begins the digestion process on its own. Unfortunately, heat destroys the cellular enzymes so cooked and processed foods require extra digestive enzymes on the part of the consumer.

Also, it has been shown that animals are able to produce fewer and fewer digestive enzymes as they age. This can be a major cause of the wasting seen in elderly pets. Besides, extra enzymes increase the absorption of many nutrients. In fact, essential fatty acids, like the ones in fish oil, have a 71% increase in assimilation when digestive enzymes are taken concurrently.

Animals simply thrive when their diet is supplemented with digestive enzymes and my product choice is *Prozyme*.

SUPPLEMENT NUMBER FOUR -- Glucosamine/Chondroitin

Glucosamine and chondroitin are components of healthy joints. They help the joint cartilage maintain its 65% to 80% water content. This gives the joint its shock absorbing quality like a wet sponge. Joint cartilage lacking these substances becomes like a dry sponge and develops arthritis.

Throughout an animal's life, there are two competing processes going on in joint cartilage. On the one hand, there are cells that continuously break down joint tissue. At the same time, there are cells that rebuild the tissue. This is how the body refurbishes itself. If the raw ingredients for rebuilding, such as glucosamine and chondroitin, are lacking, then the rebuilding process cannot keep up with the destructive process and the joint degenerates.

Glucosamine and chondroitin support joint health and they not only aid with arthritis, studies show they help prevent arthritis from developing in the first place. That's why all pets can benefit from these nutrients -- especially performance dogs whose joints take a lot of wear and tear. Recent studies have also shown that many older cats also suffer in silence from arthritis.

By the way, non-steroidal anti-inflammatory drugs decrease inflammation and pain but also inhibit the cartilage reconstruction process and thereby worsen the condition they are used to treat.

My choice for glucosamine/chondroitin supplementation is *Glycoflex* from *Vetri-Science*.

SUPPLEMENT NUMBER FIVE -- Probiotics

The canine and feline intestinal tracts are teeming with bacteria. In fact there are many more bacteria in the intestine than there are cells in the body! Some of the intestinal microbes can cause disease. Others, called probiotic bacteria are actually beneficial because they keep disease-causing germs under control and help to release more nutrients from what's left of the food. An imbalance in the intestinal flora can lead to diarrhea and/or nutritional deficiencies.

The good bacteria in the intestine can be thrown off by medications (especially antibiotics), dietary irregularities and stress. If your pet gets diarrhea while on antibiotics it is usually because of this effect. In the wild, wolves commonly eat their own stool to rebalance their gut bacteria and this is sometimes the reason our pets resort to coprophagia.

Probiotics are supplements that help to replenish the good bacteria in the intestine. Most pets do not need to be kept on probiotic supplements continuously but all animals need a balancing dose three or four times a year. It is a good practice to give probiotics at the change of seasons and during and after treating the pet with any medication.

My choice of probiotic supplement is another *Vetri-Science* product called *Acetylator*. It not only contains beneficial bacteria, it also supplies enzymes and other nutrients for intestinal health.

So there you have the listing of supplements that your pet needs. Again, your veterinarian may have his favorite products that will work just as well, but beware of health food store or on line bargain brands. And remember, all the supplements in the

world will not make up for a poor diet. Part two of this article, will provide a wealth of information on essential fatty acids and the benefits of fish oil for the health of your pet.