

Antinutrients and Your Dog

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Many dog foods today are formulated based on the latest trends. Unfortunately, our pets are basically a large test group as the long-term effects may not be known for years and could have unwanted side-effects.

Recently, many of the recommended diets for adult dogs are creating uncommonly diagnosed health issues such as dilated cardiomyopathy, fertility issues, labor and delivery problems (often related to calcium imbalances), as well other more commonly diagnosed conditions like allergies and digestive issues.

The increase in dilated cardiomyopathy (DCM) in certain breeds of dogs can be linked to grain-free kibble which results in **taurine deficiency**, an amino acid necessary for cardiac health.

Prior to 1980, almost all kibble-based dog foods were made from corn and chicken. Some dogs did develop allergies to these ingredients. While a small percentage of pets did develop an allergy to corn, this was not a large-scale problem. After corn and rice fell out of favor as dog food ingredients, a plethora of novel ingredients began to be offered in dog kibbles, including millet, peas and beans. Unfortunately, legumes contain higher levels of antinutrients when compared with corn and other cereal grains.

What are **antinutrients**? Antinutrients are natural compounds produced by plants to protect their seeds from animal consumption. What makes them antinutrients is that they all interfere with absorption of nutrients needed for an animal to maintain optimal health.

Most antinutrients are present in the hull, skin or seed coat of almost all plant-based seeds. There are different types of antinutrients that target different organ systems in the body. For example, **protease inhibitors** prevent the absorption of proteins and amino acids. Legumes, including peas and beans, can prevent the absorption of taurine and other amino acids and may be responsible for the sudden increase of taurine deficiency related cardiac problems in dogs, especially in predisposed breeds (including Doberman Pinschers, American Cocker Spaniels, Golden Retrievers and Newfoundlands). While there may be a genetic component to DCM, eating a diet that contains fewer building blocks for taurine, or a food that contains antinutrients which prevents the uptake of taurine, all breeds may be more likely to develop DCM.

Lipase inhibitors are also dangerous because they can interfere with the production of fat enzymes produced by the pancreas. These antinutrients could result in pets developing pancreatic issues.

Oxalates are antinutrients that can block the uptake of calcium (the most abundant mineral in the body). **Phytoestrogens** are another group of antinutrients currently garnering considerable interest. These are plant hormones similar to estrogen (on a mole-

cular level) found in many plants. Soybeans contain high levels of phytoestrogen. Legumes, which include peas and beans, also contain significant amounts of these hormones as well as whole grain cereals and oil seeds, like flax. It is suspected that the hormones produced by these phytoestrogens may be causing male fertility problems and cryptorchidism (undescended testicle) as well as abnormalities to the female reproductive cycle.

Dog breeders are finding that some of their breeding bitches are having more frequent heat cycles and fetal resorption issues are also on the rise. Artificial insemination is failing at a higher rate. Semen evaluation of dogs is showing decreased sperm counts or abnormal and malformed sperm in addition to increased cellular debris, according to veterinarians who work with reproduction in dogs (a branch of theriogenology).

In addition to females undergoing problems with their estrous cycles and infertility issues, there are also increased incidences of abnormal labor and delivery problems. Some females are not going into labor by the expected delivery date or are experiencing protracted labor, thought to be due, in part, to an imbalance of the calcium and phosphorus ratios. Calcium, the most abundant mineral found in the body, is vital for proper bone development and normal muscle contractions (cardiac, skeletal and other muscles, including the uterus). Reproductive females require an appropriate balance of calcium and phosphorus, not only for the developing fetus but for productive uterine contractions during labor. If contractions during labor are weak or not occurring at all, it can result in loss of some or all of the puppies in a litter.

Young Again Core Health Dog Food has the appropriate balance of calcium and phosphorus to support growth and reproductive health. And, Core Health does not contain any grain, legumes or other high antinutrient ingredients.

The source of protein and fat in Core Health is chicken. We use food starch, a purified antinutrient-free choice for a safe and digestible source of carbohydrates and include tomato pomace and psyllium as dietary fiber sources.

Added nutrients include fructooligosaccharides as a prebiotic, omega fatty acids, iron, taurine, B vitamins, vitamin A and D₃ and trace minerals.

Young Again Core Health is formulated to meet the nutritional levels established by the AAFCO Dog Food Nutrient Profiles for All Life Stages. This formula has everything beneficial for your dog and without unnecessary antinutrients that could be detrimental to your pet's health.

Sources and further reading:

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Evaluation of the effects of dietary soy phytoestrogens on canine health, steroidogenesis, thyroid function, behavior and skin and coat quality in a prospective controlled randomized trial

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