

Deciphering Pet Food Ingredients

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Objective: to debunk 5 of the many with some facts

1. Meat and meat by-products are nothing more than slaughterhouse waste.
2. The bodies of dogs and cats are in pet foods.
3. Corn is a cheap filler, a starchy energy which serves little to no nutritional value.
4. Soy is virtually unusable by an animal's body and cause bloat.
5. Carbs are not essential and cause obesity and/or diabetes

What sources are dog and cat owners using to obtain pet information? (APPA National Pet Owners Survey 2011-2012)

Source	Dog owners (% of 544)	Cat owners (% of 483)
Veterinarian	64	52
Internet / online*	34	32
Friends / relatives	30	30
Books / library	19	13
Groomer / pet store	15/19	4/14
Advertising / TV	14	15
Breeder	8	1

*Doubled since 2000

Type of food purchased in past 12 months?

Source	Dog owners (% of 544)	Cat owners (% of 483)
Labeled premium	44	35
Complete & balanced	28	31
Human / homemade	21	15
Labeled natural	13	11
+ nutraceutical	8	4
+ pre or probiotics	4	5
Labeled organic	6	4
+ herbs, botanicals	3	8
Raw	2	2
Vegetarian	1	2

Where food is purchased?

Source	Dog owners (% of 544)	Cat owners (% of 483)
Mass Merchandiser	31	35
Grocery	19	32
Pet Superstore	12	11
Pet store	10	8
Discounters	6	6
Veterinary office	4	5
Internet	1	1

Has the most knowledgeable and helpful staff when shopping for pet care items (including food)?

Source	Dog owners (% of 544)	Cat owners (% of 483)
Pet Superstore	29	23
Pet store	18	20
Veterinary office	16	14
Mass Merchandiser	11	15
Discounters	1	2
Grocery	1	7
Internet	1	-

To summarize APPA National Pet Owners survey 2011-2012 data

Sources used to obtain pet Information?

- Veterinarians still ranked first in information (64%)
- Internet was second but increasing (15 -> 34%) doubled since 2000 survey
- Who is most knowledgeable / helpful?
- Veterinarians (16%) ranked third behind pet (super) stores (47%)

#1 Internet hype

“Meat meal can contain the boiled down flesh of animals we would find unacceptable for consumption. This can include zoo animals, road kill, and 4-D (dead, diseased, disabled, dying) livestock. Most shockingly, this also can include dogs and cats. That's right, your pets could be cannibals.” <http://www.tinasark.com/petfoodhorrors.htm>. June 1, 2012

- “Meat” = can only be from cows, swine, sheep and goats that's it .. no other species allowed. The majority is beef and/or pork. If includes other specie = must be ID on label ... ex: venison, buffalo, salmon, kangaroo
- “Meal” is the product of grinding or particle size reduction. Grain meals are already dry. Meat meals are heated to remove the water to a dry consistency for dry pet foods
- “includes 4-D (dead, diseased, disabled, dying) livestock”

A “slaughtered” animal is defined as mobile before entering the facility, killed in a USDA approved facility by a USDA approved method. Yes meat meal and animal by-products may include cattle, swine, sheep or goats that have died by a means other than slaughter (euthanasia).

It is not illegal to use canine and feline rendered materials but must be ID on the label.

Safe Guards:

1. Can't be called “meat” b/c is not cattle, swine, sheep and goats
2. Would have to be ID in the ingredient list
3. Reputable pet food manufacturers contract with USDA inspected facilities
4. Dogs and cats from shelters are rendered in plants not inspected by the USDA.
5. All members of the Pet Food Institute have filed legal affidavits attesting to the fact that they avoid such ingredients. PFI includes ~ 95% of all US pet food products
6. FDA Center for Veterinary Medicine (2000) in response to the presence of pentobarbital detected (7-20 ppb) in pet food, developed a PCR canine and feline DNA test with a sensitivity of 0.005% (5 lbs/50 tons). There was a complete absence of canine and feline DNA in 31 dog foods tested.

#2 Internet hype

“Meat by-products are nothing more than slaughterhouse waste... waste that's been banned for use in human food... and then sold to the pet food industry.” <http://www.dogfoodadvisor.com/choosing-dog-food/dog-food-meat-content>. June 1, 2012

“By-product” is legally defined as a secondary (not waste) product produced in addition to the principal product. Examples:

1. Corn oil is secondary to making corn meal
2. Wheat bran is secondary to making wheat flour or bread
3. Chicken soup (stock) is secondary to cooking chicken meat
4. About 40% of 1000lb beef steer yields aesthetically acceptable marketable products. 60% = organ meats, bone, blood, hide, connective tissue, etc

Some secondary ingredients are identified as “by-product” and some get another name

“Meat” by-product” is legally defined as non-rendered (uncooked) clean parts other than meat ... specifically excludes: GI contents, hair, horn teeth, hooves, extraneous material (floor sweepings, etc). Can include organs: lungs, spleen, kidney, brain, livers,

blood, bone. Parts which are not readily consumed by US peoples but considered delicacies in other countries, and often first consumed by feral and wild canine and felines because of the high nutritional value.

The real problem with “meat by-product” isthe variability in the nutritional quality. No one can assess quality by reading the label, e.g., truly a waste of time.

Can ask the manufacturer for the by-product protein digestibility coeff which should be better than 80% or if pet food passed AAFCO feeding test – bioavailable and nutritional quality is good enough to sustain the dog fed as the sole diet for 6 months.

Because “meat by-product” is highly variably, manufacturers establish contractual agreements on the nutritional specifications, and use their power of volume to enforce. Test and reject ingredients which do not meet their specs before delivery is completed. This ensures final product consistency. Garbage in = garbage out = more product rejected by onsite QC criteria and more recalls if product left the plant.

#3 Internet hype

“Corn as first ingredient: A dog’s body cannot process corn properly. It is difficult for them to digest it. Corn is a cheap filler, a starchy energy which serves little to no nutritional value. A lot of it comes out in their waste.”

<http://www.dogbreedinfo.com/care/corndogfood.htm>. June 1, 2012

Corn is 80% starch (energy), 8% protein (corn gluten meal [not feed]) which is a good complementary protein to meats (sulfur AA), 7% fiber which is corn bran (fiber) and 4% fat which is corn oil (fat).

If the dry pet food is 50-60% starch, then a grain (corn) will be first per labeling regulations. Protein should not be first but within the first 3 ingredients. Corn is not used as a protein source given it only contains 8-10% protein. Dry foods first 3 ingredient are contributing a significant portion of the nutrients. Canned foods with water as first ingredient (78%), the contribution of nutrients is difficult to assess from the label.

#4 Internet hype

“Soy is virtually unusable by an animal’s body. The problem is worse for dogs because they lack the essential amino acid to digest soy products. Soy has also been linked to bloat and gas in many dogs.” <http://www.flint-river-ranch.info/articles.htm>. June 1 2012

The dog can digest 82% soybeans dry matter, but even better digestibility of that protein fraction is 84% in the dog. (Clapper et al. Ileal and total tract nutrient digestibility and fecal characteristics of dogs as affected by soybean protein inclusion in dry, extruded diets. *J Anim Sci* 2001;79:1523-32). No association has been found between feeding soy based dog foods and bloat after 2 decades of looking for a food related cause. An increased number of soy and cereal ingredients among the first 4 ingredients did not significantly ($p=0.83$) influence the risk of GDV.(Raghaven et al. The effect of ingredients in dry dog foods on the risk of gastric dilatation-volvulus in dogs. *JAAHA* 2006;42:28-36.)

#5 Internet hype

“Zero. That’s how many carbohydrates (CHO) are required by a dog to sustain life.” <http://www.dogfoodadvisor.com/canine-nutrition/dog-food-carbohydrates>. June 1, 2012

Correct ... CHO as a nutrient group is not considered required by AAFCO.... but glucose certainly is essential for life. If no glucose comes from diet CHO, liver makes glucose from dietary fat and protein to maintain blood glucose and replenish liver glycogen. Glucose from protein is metabolically inefficient and body must dispose of the nitrogen -> urine. Why not provide readily available CHO to support liver glycogen and blood glucose levels without having to deaminate protein (liver and kidney work)?

Cat owners ask: Does feeding dry cat foods (aka feeding high CHO diets) lead to obesity and diabetes?

NO

Controlled feline feeding trial #1

24 (9-month) old cats fed a high (20%) or low (10%) fat diet ad libitum for 26 wks. 12 were neutered 12 were intact. Cats fed the high fat low carbohydrate diet weighed more and had higher % body fat compared to cats fed low fat high carbohydrate diet ... with no significant difference in food intake. Concluded: High fat diets presented a greater risk for obesity versus high carbohydrate diets. Nguyen et al. Effects of dietary fat and energy on body weight and composition after gonadectomy in cats. *Am J Vet Res* 2004;65:1708-1713.

Controlled feline feeding trial #2

24 (4-7month old) cats fed diets with 3%, 22%, 41% or 57% ME carbohydrate in exchange for fat with constant protein ad libitum for 30 wks. 12 were neutered 12 were intact. Concluded (again): Cats fed the low carbohydrate diet weighed more and had higher % body fat compared to cats fed the high carbohydrate diet ... with no significant difference in food intake. Backus et al. Gonadectomy and high dietary fat but not that dietary carbohydrate induced gains in body weight and fat of domestic cats. *Br J Nutr* 2007;98:641-650.

Feeding Trial #2 also measured serum insulin, glucose, TAG, ghrelin and leptin q 2 wks. Cats fed a highest fat lowest carbohydrate diet had significantly higher insulin (but not glucose) levels compared with cats fed lowest fat highest CHO diets. Concluded: High carbohydrate diets did not increase body fat and did not increase serum glucose or insulin levels. Backus et al. Gonadectomy and high dietary fat but not dietary carbohydrates induce gains in body weight and fat of domestic cats. *Br J Nutr* 2007;98:641-650.

How to choose a pet food manufacturer(s)

1. National +/- international distribution - power in volume and multitude of regulations
2. A member of Pet Food Institute (~5% are not)
3. Have their own manufacturing plant – made by and made for
4. Lot # and use by dates
5. Provides customer service to Vets - can adequately and promptly answers your questions
6. Bigger is better – more to lose i.e., market shares
7. Advertising does not make my job more difficult

Advising clients on what to feed

1. A product that has passed an AAFCO feeding trial
2. For the right species (dog vs. cat) and life stage (growth or maintenance)
3. Claims “Complete and Balanced”
4. Within their budget and convenient to obtain regularly
5. More likely to be consistently fed
6. If the product passed AAFCO feeding trial, the nutritional adequacy is NOT affected by:
 - a. Organic, Natural, Archival
 - b. Canned or Kibble or Soft moist
 - c. Raw, baked, extruded, homemade or synthetic
7. “Sorry, that manufacturer is not on my recommended list”
 - a. Feed for 2-4 weeks and re-evaluate the PET (not the food)
 - b. If there are problems, consult with Vet and then make a logical next choice with specific criteria for resolution of those problems.
 - i. +/- more fiber
 - ii. +/- more water
 - iii. +/- more energy (fat)