



Why Sorghum?

- Sorghum has great energy and digestibility (80% total GI tract digestion)*
- Sorghum is a great protein source
- Sorghum came to the US in the early 1700s
- Sorghum ranks 5th in cereals for global production
- Sorghum contains iron, calcium and potassium. Before vitamins, many doctors prescribed it as a daily supplement for people with deficiencies in these nutrients.
- Sorghum is used to make cereal, snack foods and ground into flour to make pancakes and other baked goods





Why Wheat?

- Wheat has great digestibility (84% gross energy)*
- Wheat provides high quality protein, with fiber, minerals and carbohydrates
- Food allergies are uncommon, comprising only 1% of skin disease in dogs and cats*.
• Of pets who have a food allergy, 15% of dogs and 4.5% of cats have been reported to have allergies to wheat.*
- Wheat is the primary grain used in U.S
- Wheat is the third most popular grain in the world
- Wheat is used in many products like pasta, bread, cereal, cookies, gravy, and pastries





Why Barley?

- Barley provides high quality protein and has high digestibility (84% gross energy)*
- Barley is high in beneficial fiber; 50% is soluble
- Barley is the world's oldest grain
- Barley is the 4th largest crop in the United States
- Barley has been shown to lower cholesterol in people
- Barley is used in foods such as breakfast cereals, soups, pilaf mixes, breads, cookies, crackers and snack bars





Why Oats?

- Oats provide high quality protein and has high digestibility (86% gross energy)*
- Oats were first brought to North America in 1602
- Oat bran is recommended for people, because it is easy on digestion and assists in regulating gastrointestinal function
- Oats for people have anti-inflammatory properties, and have been clinically shown to help heal dry, itchy skin
- Oatmeal is famous for lowering cholesterol in people
- Oats is used in porridge and muesli, added into breads, biscuits, cereal bars





Why Corn?

- Corn is highly digestible (82% gross energy)* and provides high quality protein
- Corn provides beneficial fatty acids, for skin and coat
- The prevalence of grain allergies is very low compared to other environmental allergies
- Corn is also called Maize
- Corn is the number one crop in the world
- Corn is used cereals, chips, soups, cornbread, tortillas and popcorn





Why Rice?

- Rice is easily digested (88% total GI tract digestion)*
- Rice provides high quality protein
- Rice has the second-highest worldwide production
- Rice is the staple food of over half the world's population
- Rice is used to provide welcome relief from gastrointestinal upset.
- Rice is used for rice-pilaf, noodles, cereal, risotto and sushi



Why Grains?

- Common grains are wheat, corn, barley, oats, sorghum and rice
- Grains are highly digestible, (starch component is >99%)
- Total GI tract digestion (gross energy) is 80-88%*
- Grains provide high quality protein
- Grains provide beneficial fatty acids, vitamins and minerals
- Food allergies are rare making up 1% of all skin diseases and 10% of all allergic skin disease**
- Grains are used in breads, crackers, cookies, cereals, pasta, popcorn, gravy and so much more





What is a By-product?

According to the 2013 Official Publication of AAFCO, Page 342 (Official Feed Terms), a by-product is defined as:

By-Product - Secondary products produced in addition to the principle product.

Examples:

Lamb meal, Fish meal, Salmon meal,
Vitamin E, Chicken liver, Whey,
Chicken by-product meal, Beet pulp,
Chicken fat, Rice bran, Tomato pomace.



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Nutritional Nuggets

No: NN0154 – Can you find the hidden by-products?

Soundbites on Current Topics

What is a By-product?

According to the 2013 Official Publication of AAFCO,
Page 342 (Official Feed Terms), a by-product is defined as:

“By-Product - Secondary products produced in addition to the principle product.”

Examples of ingredients that are by-products:

Lamb meal, Fish meal, Vitamin E, Chicken liver, Egg Product, Chicken by-product meal, Whey, Brewers Dried Yeast, Beet pulp, Chicken fat, Rice bran, Tomato pomace.

Here's a sample pet food ingredient label – can you find the hidden by-products?

Deboned Whitefish, Whole Ground Brown Rice, Whole Ground Barley, **Menhaden Fish Meal**, Oatmeal, Canola Oil (preserved with Mixed Tocopherols), **Tomato Pomace** (source of Lycopene), Whole Sweet Potatoes, **Natural Fish Flavor**, Whole Potatoes, Peas, Whole Carrots, Blueberries, Cranberries, Flaxseed (source of Omega 3 and 6 Fatty Acids), Barley Grass, Dried Parsley, Garlic, Alfalfa Meal, Dried Kelp, Yucca Schidigera Extract, L-Carnitine, L-Lysine, Glucosamine Hydrochloride, Turmeric, Sunflower Oil (source of Omega 6 Fatty Acids), **Chicken Fat** (preserved with Mixed Tocopherols), Dried Chicory Root, Oil of Rosemary, Beta Carotene, Vitamin A Supplement, Thiamine Mononitrate (Vitamin B1), Riboflavin (Vitamin B2), Niacin (Vitamin B3), d-Calcium Pantothenate (Vitamin B5), Pyridoxine Hydrochloride (Vitamin B6), Biotin (Vitamin B7), Folic Acid (Vitamin B9), Vitamin B12 Supplement, Calcium Ascorbate (source of Vitamin C), Vitamin D3 Supplement, **Vitamin E Supplement**, Iron Amino Acid Chelate, Zinc Amino Acid Chelate, Manganese Amino Acid Chelate, Copper Amino Acid Chelate, Choline Chloride, Sodium Selenite, Calcium Iodate, Salt, Caramel, Calcium Carbonate, Potassium Chloride, **Dried Yeast**...

The pet food label above is Blue Buffalo, Blue™ Life Protection Formula Fish & Sweet Potato Recipe for Adult Dogs. This product contains 6 different ingredients defined by AAFCO as **BY-PRODUCTS**



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No: NN12-15 Ingredient sourcing

Soundbites on Current

Where do we source our ingredients?

Hill's sources raw materials from countries where reliable safety procedures exist, primarily the United States, Japan, Canada, New Zealand, Australia and several European countries.

Regardless of the country from which our ingredients are sourced, the ingredient supplier must meet Hill's strict guidelines for doing business. Each shipment must meet Hill's quality and safety qualifications before entering our plants. Due to limited manufacturing locations for certain materials such as taurine, China sources may be used with extensive, additional approval requirements.





Family, a seldom used AAFCO statement

AAFCO defines “product families” as foods that are comparable to a food that has passed a feeding trial and are nutritionally and calorically similar.

What makes the product family similar

- ❖ The lead product must have passed a feeding trial
- ❖ Both products must be in the same moisture content category
- ❖ The lead product must be within +/- 7.5% metabolizable energy of the family product
- ❖ The family product must meet the dry matter nutrient levels of the tested product for crude protein, calcium, phosphorus, zinc, lysine, and thiamine for dog foods and additionally potassium and taurine for cat foods.
- ❖ Nutrients other than those listed above need to meet or exceed the nutrient levels and ratios of the tested product or the AAFCO nutrient profiles whichever is lower. Nutrients shall not exceed the maximums established by AAFCO.



- **Approved AAFCO family statement:** “(Name of Product) provides complete and balanced nutrition for _____ and is comparable in nutritional adequacy to a product which has been substantiated using AAFCO feeding tests.” The blank space will be filled in with the appropriate life stage i.e. gestation/ lactation, growth,

- **Does *natural* mean *organic*?**
- No. *Natural* and *organic* are not interchangeable. Other truthful claims, such as free-range, hormone-free, and natural, can still appear on food labels. However, don't confuse these terms with "organic." Only food labeled "organic" has been certified as meeting USDA organic standards.¹
- Under existing regulations four categories were created for the term "organic":
 - 100 Percent Organic - may carry the USDA Organic Seal
 - Organic - at least 95% of content is organic by weight (excluding water and salt) and may carry the USDA Organic Seal.
 - Made With Organic - at least 70% of content is organic and the front product panel may display the phrase "Made with Organic" followed by up to three specific ingredients. (May *not* display the USDA Organic seal)
 - Less than 70 % of content is organic and may list only those ingredients that are organic on the ingredient panel with no mention of organic on the main panel. (May *not* display the USDA Organic seal)

The first two categories are entitled to use the USDA Seal on the packaging under specific rules as to size, color and type. The last 2 categories may not use the seal.

¹ <http://www.ams.usda.gov/nop/Consumers/brochure.html>

²Association of American Feed Control Officials (March 2004) Section IV – Pet Food Label Claims – Page 66 Section E.

Claims that a product contains or is made from ingredients that are "human grade", "human quality", "people foods", "ingredients you (the purchaser) would eat" "food(s) that you (the purchaser) would feed your family" or similar claims are false and misleading unless the entire product, itself, meets the USDA and FDA standards for food **edible** by humans. At this time, the use of "human grade" or "human quality" is not allowed, because these items are not defined.



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NN0045

Soundbites on Current Top

What Does AAFCO's "All Life Stages" Mean?

- If the AAFCO statement says "complete and balanced for all life stages" ...
 - ✓ The pet food has to be suitable for puppies, kittens or pregnant/lactating adults – which means some of the nutrients may be at levels that are excessive for typical adult and older pets!
- Pets need food that's appropriate for their specific stage in life so they will receive adequate, but not excessive, amounts of important nutrients.
 - ✓ Puppies, kittens and lactating mothers need more protein, vitamins, and minerals than adults to ensure proper growth.
 - ✓ For typical adult dogs & cats, excess intake of certain nutrients may make some conditions worse. For example, excessive phosphorus intake worsens kidney disease, a condition that often goes undetected in its early stages.
 - ✓ AAFCO does not publish nutrient guidelines for older dogs and cats. However, foods for these pets should address changes in vital organ function that occur as animals mature.
- The AAFCO statement on pet food packaging verifies the product is nutritionally balanced for a designated life stage:
 - ✓ Growth, pregnancy/lactation, adult, or **all life stages**
- Many pet food manufacturers offer products for a pet's specific stage in life (e.g., adults).
 - ✓ Check AAFCO statements to make sure the food you are feeding your puppy or kitten is appropriate for growth. **And make sure the dog or cat food you choose for your adult pet is intended for adult maintenance, NOT all life stages.**
- Recommend Hill's® Science Diet® brand pet foods with confidence. You can be sure that Science Diet dog and cat foods **offer precise nutrition for particular life stages.**





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No. NN0055

Soundbites on Current Top

Understanding Pet Food Labels AAFCO Requirements* for Naming Pet Foods



If pet food name says...	Pet food must contain at least % of named ingredient
Chicken, beef, seafood, etc (Ingredient without modifiers)	95%
Dinner, entrée, platter, etc (chicken dinner, beef entrée, seafood & beef platter)	25%
With (with chicken, with beef, with seafood etc)	3%
Flavor (chicken flavor, beef flavor)	No specific %, but ingredient list must disclose source of flavor



*AAFCO 2010 pg 184-185



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No: NN0132 AAFCO Feeding Trial

Soundbites on Current Topics

AAFCO Feeding Trial vs. “formulated” food.

Pet food manufacturers can choose to either “formulate” a pet food, or use AAFCO’s Feeding Trial data.

Required Procedures	AAFCO Feeding Trial	“Formulated”
Minimum of 30 dogs (cats) to establish colony average	YES	NO
Minimum of 8 dogs (cats) at least one year of age for each trial.	YES	NO
Same formulation must be used throughout test period.	YES	NO
Test must run a minimum of 26 weeks. (6 months)	YES	NO
Formulation shall be the sole source of nutrients, except water.	YES	NO
Daily food consumption must be measured.	YES	NO
Individual body weights shall be measured and recorded weekly.	YES	NO
Hemoglobin, packed cell volume, other blood chemistry tests done.	YES	NO
Thorough veterinary physical exam done twice during test.	YES	NO

Pet foods that are “formulated” have no required testing to determine if the ingredients used are bio-available or digestible in the dog or cat.

Look for this statement on pet foods to insure feeding trials.



AAFCO Statement: Animal feeding tests using AAFCO procedures substantiate that Science Diet® Adult Healthy Mobility™ Dog Food provides complete and balanced nutrition for maintenance of adult dogs.





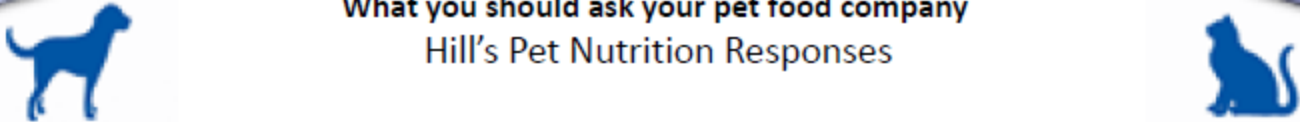
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How does Hill's Pet Nutrition compare to Blue Buffalo?



Hill's Pet Nutrition	Blue Buffalo
Founded 1948	Founded 2002
Founded by a veterinarian	Founded by an entrepreneur
Founded The Morris Animal Foundation, a charity for small animals, supporting research to help animals since 1948	Founded Pet Cancer Awareness in 2003. Along with Petco supports cancer research done at the Morris Animal Foundation.
Employees 150+ veterinarians, nutritionists, PhD scientists and credentialed technicians	?
Spends \$52 million dollars a year in scientific research	?
The Hill's Shelter Nutrition Partnership has donated over \$240 million worth of Science Diet brand foods since 2002	?
Donates food and supplies during natural disasters, like floods, hurricanes, fires and tornados. Earthquake in Japan- tons of food and \$250,000 Gulf Coast oil spill- food Hurricane Katrina- 200,000 lbs. of food and supplies	?





AAHA Nutritional Assessment What you should ask your pet food company Hill's Pet Nutrition Responses

Do you have a veterinary nutritionist or some equivalent on staff in your company?

Yes, we have board certified Veterinary Nutritionists, PhDs and veterinarians, many with advanced degrees.

Are they available for consultation or questions?

Our Veterinary Consultation Service is comprised of certified veterinarians and vet technicians with over 250 years of experience in the practice setting. In addition, they have access to our nutritionists to provide additional support to answer questions.

Who formulates your foods, and what are their credentials?

We have veterinarians, food scientists, technicians and PhD nutritionists at Hill's that develop Science Diet®, Prescription Diet®, Ideal Balance™ and Healthy Advantage™ brand pet foods to meet the needs of pets at any stage in their life.

Which of your food(s) are tested using AAFCO feeding trials, and which by nutrient analysis?

Most all of our foods have undergone a feeding trial meeting or exceeding AAFCO standards.

What specific quality control measures do you use to assure the consistency and quality of your product line?

Our plants are inspected on average once per month by USDA, State Departments of Agriculture, FDA, AIB International or Hill's Global Quality. All finished products are held until they pass a rigorous testing process that includes tests for nutrient levels, foreign materials and salmonella (dry only). We employ HACCP (Hazard Analysis Critical Control Point) programs. Samples are taken every 30 minutes to assure nutrients and quality of food. We perform over 1000 checks for salmonella a month.

Where are your foods produced and manufactured?

We have 6 Hill's owned facilities that make 96.8% of our foods, 4 in the US and 2 in Europe. 3.2% of our foods are made in certified facilities that must meet the same stringent quality control measures as our plants to produce our foods. We manufacture 100% of our dry pet foods in our own manufacturing facilities under the supervision of Hill's employees. Due to our stringent quality and safety programs, we are confident in the safety of our products. Since 2007, Hill's has invested millions of dollars in our facilities, manufacturing practices and formulas to reduce the risk of food safety issues. In fact, Hill's performs over 1,000 tests for salmonella at our manufacturing plants every month, and we do not release products from our facilities until our food safety testing is complete.

Can this plant be visited?

Tours are provided to veterinarians and their staff, pet store employees and specially invited guests.

Will you provide a complete product nutrient analysis of your best-selling dog and cat food, including digestibility values?

Nutrient values are available on our web site, Hillspet.com.



Our ingredients undergo strict quality controls

We source meat and poultry ingredients from USDA inspected plants. Lamb and Venison are sourced from New Zealand and Australia.

We inspect and test our high-quality ingredients on-site as part of our stringent standards for the production of our premium pet foods.

We analyze our ingredients for over 50 nutrients to ensure the stringent, precise formulation of our products.

Every ingredient is inspected and verified via microbiological, sensory, chemical or foreign matter testing.





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Nutritional Nuggets

No: NN12-11B- Pet food plants

Soundbites on Current

Our pet food plants undergo strict quality control

Our plants are inspected on average once per month by USDA, State Departments of Agriculture, FDA, AIB International or Hill's Global Quality

All finished products are held until they pass a rigorous testing process that include tests for nutrient levels, foreign materials and salmonella (dry only).

We employ HACCP (Hazard Analysis Critical Control Point) programs.

Samples are taken every 30 minutes to assure nutrients and quality of food

