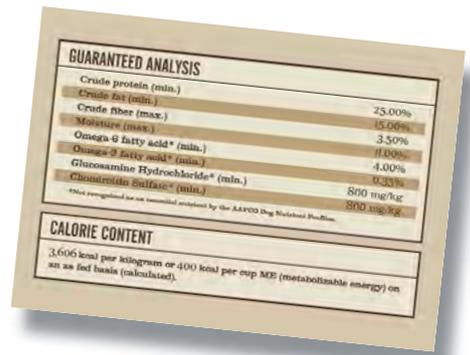


Beyond the Guaranteed Analysis COMPARING PET FOODS

Justin Shmalberg, DVM, Diplomate ACVN

The guaranteed analysis found on all pet foods sold under AAFCO guidelines cannot be used to compare one pet food to another.



The macronutrients listed are reported as minima and maxima, instead of the actual amount typically found in the food, and values listed are a percentage of weight as-fed. Diets vary in moisture and fiber content, creating differences in the number of calories per unit of weight (caloric density).

Pets are fed by calorie, not by weight, so comparisons should ideally be expressed in the amount of a particular

nutrient per calorie.

- Typical content of protein and fat can be estimated by adding 1.5% to the protein minimum and 1% to the fat minimum.¹
- This information can be subsequently used to determine grams of protein and fat per 1000 kcal—the preferred unit for pet food comparison.²

Any 2 pet foods can be accurately compared when the caloric basis is either calculated as described (Table 1) or:

- Obtained from manufacturers or via consultation services
- Found online or in product guides.

A general comparison tool for commercial pet foods is provided along with the suggested dietary concentrations established by a research panel (Table 2).² An example is provided that illustrates the method of comparison using the labels from 2 commercial products (Table 3).

TABLE 1. STEP BY STEP: ESTIMATING NUTRIENT CONCENTRATION ON A CALORIC BASIS

Step 1	<ul style="list-style-type: none"> • Add 1.5% to protein percentage from pet food label • Add 1% to fat percentage from pet food label
Step 2	Divide kcal/kg by 10,000
Step 3	Divide estimated protein % and fat % by number obtained in Step 2

TABLE 2. COMPARISON OF PET FOODS BY CALORIC BASIS

Canine Diets	NRC RA* (g/1000 kcal)	Low (g/1000 kcal)	Moderate (g/1000 kcal)	High (g/1000 kcal)
Protein	25	< 60	60–90	> 90
Fat	13.8	< 30	30–50	> 50
Carbohydrate	n/a	< 50	50–90	> 90
Feline Diets	NRC RA* (g/1000 kcal)	Low (g/1000 kcal)	Moderate (g/1000 kcal)	High (g/1000 kcal)
Protein	50	< 80	80–120	> 120
Fat	22.5	< 40	40–60	> 60
Carbohydrate	n/a	< 35	35–70	> 70

*National Research Council recommended allowance²

TABLE 3. CONVERSION OF GUARANTEED ANALYSES + COMPARISON OF TWO COMMERCIAL DOG FOODS

Ingredient	PET FOOD 1 (DRY)	PET FOOD 2 (WET)
GUARANTEED ANALYSIS		
Crude protein (min)	25%	8%
Crude fat (min)	15%	5%
CALORIE CONTENT		
kcal/kg	3606	1198
CONVERSION		
Protein	<ol style="list-style-type: none"> 1. 25% + 1.5% = 26.5% 2. 3606 kcal/kg / 10,000 = 0.3606 3. 26.5 / 0.3606 = 74 g/1000 kcal 	<ol style="list-style-type: none"> 1. 8% + 1.5% = 9.5% 2. 1198 kcal/kg / 10,000 = 0.1198 3. 9.5 / 0.1198 = 79 g/1000 kcal
Fat	<ol style="list-style-type: none"> 1. 15% + 1% = 16% 2. 3606 kcal/kg / 10,000 = 0.3606 3. 16 / 0.3606 = 44 g/1000 kcal 	<ol style="list-style-type: none"> 1. 5% + 1% = 6% 2. 1198 kcal/kg / 10,000 = 0.1198 3. 6 / 0.1198 = 50 g/1000 kcal
FINAL RESULT	Moderate protein / moderate fat	Moderate protein / high fat

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some of these trends and offering new product choices.

- As additional scientific information becomes available, veterinarians should be open to understanding owner concerns and philosophies about feeding.
- The nutrient composition of most diets can be assessed using available information.
- An increasing number of veterinary nutrition specialists are available for consultation. ■

AAFCO = Association of American Feed Control Officials; FLUTD = feline lower urinary tract disease; FDA = Food and Drug Administration; NRC = National Research Council; USDA = U.S. Department of Agriculture

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IVERHART MAX[®]

(ivermectin/pyrantel pamoate/praziquantel)

Chewable Tablets

CAUTION: Federal (US) law restricts this drug to use by or on the order of a licensed veterinarian.

BRIEF SUMMARY: Please consult package insert for complete product information.

Indications: For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae (*Dirofilaria immitis*) for a month (30 days) after infection and for the treatment and control of roundworms (*Toxocara canis*, *Toxascaris leonina*), hookworms (*Ancylostoma caninum*, *Uncinaria stenocephala*, *Ancylostoma braziliense*), and tapeworms (*Dipylidium caninum*, *Taenia pisiformis*).

WARNINGS: For use in dogs only. Keep this and all drugs out of reach of children. In safety studies, testicular hypoplasia was observed in some dogs receiving 3 and 5 times the maximum recommended dose monthly for 6 months (see Animal Safety). In case of ingestion by humans, clients should be advised to contact a physician immediately. Physicians may contact a Poison Control Center for advice concerning cases of ingestion by humans.

PRECAUTIONS: Use with caution in sick, debilitated, or underweight animals and dogs weighing less than 10 lbs. The safe use of this drug has not been evaluated in pregnant or lactating bitches.

All dogs should be tested for existing heartworm infection before starting treatment with IVERHART MAX Chewable Tablets, which are not effective against adult *D. immitis*. Infected dogs should be treated to remove adult heartworms and microfilariae before initiating a heartworm prevention program.

While some microfilariae may be killed by the ivermectin in IVERHART MAX Chewable Tablets at the recommended dose level, IVERHART MAX Chewable Tablets are not effective for microfilariae clearance. A mild hypersensitivity-type reaction, presumably due to dead or dying microfilariae and particularly involving transient diarrhea, has been observed in clinical trials with ivermectin alone after treatment of some dogs that have circulating microfilariae.

ADVERSE REACTIONS: In clinical field trials with ivermectin/pyrantel pamoate, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses). The following adverse reactions have been reported following the use of ivermectin: depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.

ANIMAL SAFETY: Studies with ivermectin indicate that certain dogs of the Collie breed are more sensitive to the effects of ivermectin administered at elevated dose levels (more than 16 times the target use level of 6 mcg/kg) than dogs of other breeds. At elevated doses, sensitive dogs showed adverse reactions which included mydriasis, depression, ataxia, tremors, drooling, paresis, recumbency, excitability, stupor, coma and death. No signs of toxicity were seen at 10 times the recommended dose (27.2 mcg/lb) in sensitive Collies. Results of these studies and bioequivalence studies support the safety of ivermectin products in dogs, including Collies, when used as recommended by the label.

In a laboratory safety study, 12-week-old Beagle puppies receiving 3 and 5 times the recommended dose once weekly for 13 weeks demonstrated a dose-related decrease in testicular maturation compared to controls.

HOW SUPPLIED: IVERHART MAX Chewable Tablets are available in four dosage strengths for dogs of different weights. Each strength comes in a box of 6 chewable tablets and in a box of 12 chewable tablets, packed 10 boxes per display box.

STORAGE CONDITIONS: Store at controlled room temperature of 59°-86° F (15°-30° C). Protect product from light.

For technical assistance or to report adverse drug reactions, please call 1-800-338-3659.

Manufactured by: Virbac AH, Inc. Fort Worth, TX 76137

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