

Nutrition
by Betty Lewis, RVT, Dr. A. N.



Nutrition for Companion Carnivores

(Note; this discussion specifically talks about dogs, but is applicable to cats as well.)

Introduction

Until recently zoologists classified dogs and wolves as separate species; now scientists have proclaimed that there is no differences between the two species. This change was formalized in the 1993 publication: Mammal Species of the World, A Taxonomic and Geographic Reference, edited by D.E.Wilson and D.A.M. Reeder, published by the Smithsonian Institution in association with the American Society of Mammalogists.1This reference book is the final authority of the scientific community on mammal classification.

Why is this important in a discussion of nutrition for our pet dogs? In many ways, dogs are wolves with a thin veneer of civilization over them. We can learn a lot about our companion dogs from studying the wolves, but this discussion shall be confined to how best to feed our family companions using the wolf as a model.

What's wrong with commercial foods?

The number one item which makes commercial foods inappropriate for pets is that these foods are cooked. No one has ever reported seeing wild animals routinely barbecuing their meals! Raising the temperature of food above 118° destroys all the enzymes and many of the nutrients.

In addition, I am given to understand that in order for the extruder (machine that makes the kibble into little pieces) to work, the food must be at least 40% grain. Since there has never been a report indicating that dogs and cats require carbohydrates, let alone grains, the reliance on this inappropriate food source is out of proportion and detrimental to their health.* Many dogs who have had grains entirely eliminated from their diets have responded by having "allergies" and other conditions clear up.2

The best guide to feeding dogs is to think about what they would eat in the wild, and then to try to reproduce that as closely as possible with the ingredients we have available. Wolves eat whole animals, from mice to caribou, and supplement their diets with other things that they find, like over-ripe fruit that has fallen to the ground, grasses, seeds, nuts and vegetable matter. Very little grain would be found in the diet of a wild carnivore, and they would avoid the moldy, toxin-ridden grains that comprise the majority of commercial pet foods. Despite the fact that there is no evidence showing that dogs & cats require carbohydrates in their diets, that is what makes up most commercial foods.

From Sandra Brigola, editor and publisher of Canine Health Naturally Newsletter, comes the following information regarding commercial pet foods: "The stored grains are sprayed with ethoxyquin, and moldy grains that have mycotoxins, aflatoxin or fusarium molds are hard to destroy. The allowable level in pet foods is 1.0 ppm (parts per million). The way that pet food

manufacturers get around this is by mixing grains with higher levels of mycotoxins with grains of lesser levels; hopefully to reduce the higher levels. In its 1992 report, the Mycotoxin Committee of the American Association of Veterinary Lab Diagnostics said: "Virtually all animal foods contain at least some viable mold." 3

In addition to substandard and heavily preserved grains, there is more bad news. The "meat" ingredient is not a whole cow or even a steak. This is what Marina Zacharias printed in her Natural Rearing Newsletter:

"The National Animal Control Association has estimated that animal shelters kill over 13 million household pets a year. Of this total, 30% are buried, 30% are cremated and the remaining 40%, about 5 million pets, are shipped to rendering factories to be recycled and used in pet food." 4
This information has been confirmed in great detail by Ann Martin in her book, Food Pets Die For. 5

In his book, Give Your Dog a Bone, Ian Billinghurst, BV. Sc (Hons), B.Sc. Agr., Dip. Ed. talks about modern dog feeding myths. We have been raised to believe that these myths are gospel, when, in fact, they are not true and never have been.

These are the myths:

1. The digestive system of modern dog is different from that of his ancestors and therefore must be fed differently.
2. Dogs shouldn't eat bones and other raw foods.
3. All dog food should be cooked.
4. You need a university degree in dog nutrition to feed a dog.
5. The best way to feed a dog is with commercial dog food.
6. Each meal you feed a dog must be complete and balanced. 6

Why BARF? What is BARF?

BARF is an acronym, which stands for Biologically Appropriate Raw Foods or Bones And Raw Foods. While "true" BARF feeding follows the philosophy and feeding style outlined by Dr. Billinghurst, there are several well-known people espousing feeding raw foods. Information on these different styles can be found in their books listed at the end of this article.

What are the benefits of feeding BARF?

- * Healthier animals, with resulting lower veterinary costs
- * Balanced energy: "hyper" animals become calmer, lethargic ones become energetic
- * Naturally clean teeth
- * Small, nearly odorless stools which disintegrate quickly
- * Reduced chemical exposure (found in commercial foods)
- * No "doggy" odor and fresh smelling breath
- * Often, reversal of behavior and physical ailments
- * Not yet proven, but quite likely less prone to bloat
- * Less expensive
- * You control what your pets eat

What are the challenges to feeding BARF?

While feeding a raw food or BARF diet to your pets is, in reality, no more complicated than feeding yourself or your family, two generations of humans have grown up listening to the commercial pet food companies' commercials. Thus we have it ingrained in our brains that feeding animals is not understandable. This indoctrination is difficult to overcome without active

education about the requirements of feeding carnivores and the possible choices available. The recommendations in this article are based on Dr. Billinghurst's book(s), but, for the serious student, it is advisable to read all there is on the subject. The books at the end of this article will give a good start.

Probably the biggest challenge, after making the decision to change the way you feed your animals, is lining up your food sources. Depending on the size of your animals, a freezer may be necessary as well.

In addition, being a pioneer is never easy and there will always be well-meaning, but ill-informed family and friends and veterinarians who will try to dissuade you and will try to convince you to feed kibble again. It is often better to go ahead with your feeding changes without telling others. Once you and they see the positive changes in your animals, there will be less discussion about this.

BONES? Did you say bones and raw foods?

We've been told that bones, especially chicken bones are the very worst foods we can feed our animal companions. Where did this information come from? It came from the habit of cooking our own food and feeding the leftover bones to our animals. Cooked bones are dried out and tend to splinter, making them prime candidates for perforating digestive organs on their way through. Raw, meaty bones, however, are soft and pliable. You will be amazed at how well the carnivore jaw is adapted to eat raw bones. In fact, my Great Dane can chew up a chicken wing in 10 seconds, my Whippet can do it in 30, but it took my disposal 5 minutes to accomplish the same task! Dogs and cats are truly designed by Mother Nature to eat in this fashion.

What about salmonella & other bacteria?

Bacteria are everywhere. We all live with a tremendous amount of bacteria. Dogs and cats are especially adapted to be able to handle ingesting bacteria. Remember how these beings clean themselves!

Yes, salmonella is found on chicken, but it is also on vegetables, on your counters, your floors, in your back yard, at the park and everywhere else. What is the answer to minimizing your family's exposure to these critters? Wash your hands! Clean your counters and just be aware. Common sense and proper food handling is always advised.

Is feeding BARF safe?

Life is not "safe"; all choices carry risk. I've heard of dogs choking and dying on kibble and I've heard of dogs choking on raw meaty bones (RMBs). I have also heard of people choking on food. Feeding BARF is as safe as anything else in life and, as stated above, common sense should prevail. Supervised meals are always a good idea.

What are BARF feeders feeding?

This is an introductory article and is not meant to be comprehensive, thus the strong recommendation to read the books mentioned at the end of this article, however, I can tell you what I feed my dogs.

- * Raw meaty bones (RMBs). chicken, lamb, pork, beef, fish, rabbit, venison
- * Ground or chunked meats of the same animals
- * Organ meats.

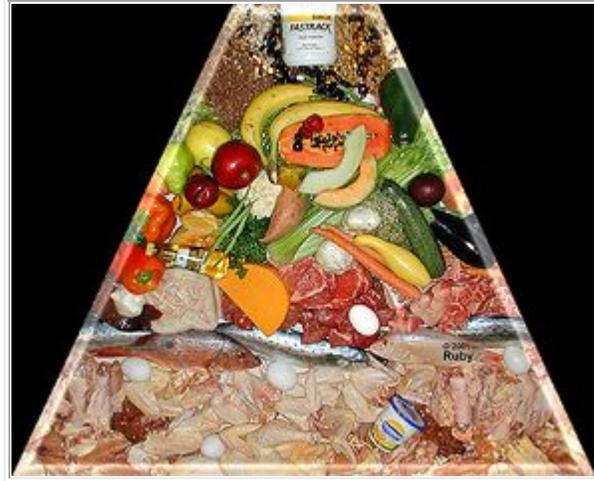
- * Pulverized vegetables. leafy greens, squashes, broccoli, cauliflower, cabbage, carrots, beets, etc, etc. Pat McKay, in her book *Reigning Cats & Dogs* has an excellent section on the vegetables, which to feed in moderation and which are good for various conditions.
- * Fruits. I feed these very rarely, mostly because I don't eat many myself. If you're eating fruit, share it with your pets. Many cats reportedly love melon!
- * Seeds & nuts. almonds, pumpkin seeds, flax seeds, sunflower seeds, tahini, filberts
- * Oils. primarily flaxseed oil and fish body oil. These oils help balance the fact that chicken skin is high in omega 6 fatty acids. The oils are high in omega 3's. I also feed cod liver oil in the winter since there is very little sun exposure in New England (USA) in the winter.
- * Eggs with the shells.
- * Concentrated whole foods (usually considered supplements) such as Super Blue Green Algae (SBGA), *Aphanizomenon flos-aquae* species harvested by the Cell Tech company and obtainable from independent distributors. I make a "healthy powder" consisting of SBGA, garlic, vitamin C and rotating herbs.
Some people feed alfalfa and kelp in place of the SBGA, but I don't believe that animals with healthy thyroid glands should eat kelp everyday. In addition, the quality of both the alfalfa and the kelp is so variable that sometimes it's useless. Wherever man intervenes, you must be vigilant and know your sources
- * Dairy products- these are not a part of a strict diet where the goal is to mimic the prey animal a carnivore would eat in the wild. However, they are often favorites among dogs. They provide a few probiotics (see below) and offer some variety. I feed yogurt and cottage cheese on a very occasional basis.
- * Probiotics and digestive enzymes. Some people argue that these are not necessary when feeding a raw diet. Theoretically, these people are right, but reality is that most of us are buying our raw materials from grocery stores. Who knows where these foods come from and how long ago they were shipped? In this day and age, even an organic raw diet can't be depended on to provide all the nutrients. Acid rain, depleted soil, poor eating habits, stress, someone in the household smoking, etc., all contribute to less than optimum use of the foods we're feeding.

Probiotics. These are the good bacteria which populate the gut and are needed to digest some foods as well as to manufacture certain vitamins such as vitamin K (for clotting). They have a lot of other jobs as well. They are fragile and need to be replaced regularly.

Digestive Enzymes. We were taught in high school biology that our bodies make digestive enzymes--some in the mouth, some in the stomach and some in the pancreas. This is true. It is also true that those who eat a raw diet get enzymes in their food, however, when the quality of that food is compromised, we must once again draw on the body's capacity to make enzymes from the foods we eat. When the amino acids are used to make digestive enzymes, they are not then available to make other enzymes used in other functions, or to be used to run the body. Therefore, I believe that it is prudent to supplement with digestive enzymes. This is especially true for the initial transition to a raw diet, for sick or debilitated animals and for those not eating organic raw foods from known sources.

Table scraps. My dogs like to lick the plates before they go in the dishwasher and I like to let them do it. There is no harm in letting dogs have some of your food, even cooked, if you use common sense on amounts and remember that cooked bones are never included.

BARF Pyramid



Courtesy of Ruby Ricciardi

What about a balanced diet?

Here's what Randy Wysong, DVM has to say about a "complete and balanced diet":

"A 100% complete processed diet requires:

1. 100% complete knowledge of food.
2. 100% complete knowledge of nutrition.
3. 100% complete knowledge of #1 & #2 requires 100% complete knowledge of every science.
4. Since #1,2 & 3 are not possible, the 100% complete processed diet is a myth." 7

So, even if the bag says "complete and balanced", it's not likely that is what your feeding your pet. The truth is, though, that the body knows what it needs. If you supply variety in the form of a species appropriate diet, you do not have to concern yourself about this aspect of feeding. Balance is achieved over time, not in every meal or even every day.

Dr. Ian Billinghurst does give some guidelines in his books. He suggests that 60-80% of the diet consist of RMBs. This means for every 10 meals you serve, 6-8 should be RMB meals. People achieve this in various ways and what you end up doing depends on what fits best into your lifestyle and how well your animals do on that system.

How do I know how much to feed?

I attended a Billinghurst seminar when he was lecturing in the USA in 1998. In answer to this question, he showed a slide. One side showed a drawing of a dog with her ribs sticking out. Under this drawing it said, "Feed More". The other drawing on the slide was that of an extremely obese dog and the caption said, "Feed Less." This is the simplest way to decide: let your animals tell you by how they look and feel. A healthy dog should have just the hint of visible ribs. For those who need figures, 2-3% of body weight has been suggested for adult dogs with 10% for growing puppies.

Can I feed a combination of BARF and commercial foods?

The purists would tell you that you can not, because cooked, grain-based foods are digested at a different rate from raw foods and you will create digestive upsets if you try. However, for 29 of the 31 years I have been raising dogs, I did just that. My dogs have always been fed raw foods along

with kibble and they did reasonably well as far as their overall health was concerned. However, I can tell you that when I learned about BARF and completely dropped the kibble from my dogs' diets, there was a visible improvement in their coats and musculature.

Some people transition from commercial foods to BARF by alternating meals or days. There is no hard and fast rule. Do what works for you and for your animals.

What else is important when feeding my companion animals?

Finally, no discussion of diet is complete without the mention of pure water. After oxygen, water is the most important nutrient required by our bodies. Bodies are reported to be about 75% water. Therefore, it is important to provide the best quality. Quality water used to be something we could take for granted, but no more! Municipal sources are often polluted, and then sanitized by using the toxic chemical chlorine. People say to me, "but I have well water!" as though not knowing the source of our water somehow makes it better! Are you certain that underground aquifer is pristine? Are you downhill from your neighbor's septic system? The only thing better about well water is that no chlorine or fluoride has been added. Beyond that, we don't really know what's in it, and the standard water analysis which proclaims our water "safe" doesn't begin to test of the number of possible contaminants.

The only way we can be sure our water is pure is by purifying it ourselves. Water purifiers come in a variety of categories from small countertop models to whole house units. My information says that the best kind is a reverse osmosis unit. Don't be fooled into thinking that a carbon filter on the faucet is enough. Bottled water from the grocery store may be an expedient compromise in the short-term, either during the transition to a home purifier or while traveling, but this industry is little regulated and you could be drinking someone else's tap water!

Incidentally, water is also known as the universal solvent, which means that it has the ability to dissolve materials and incorporate them into itself. That plastic water dish you let water sit in all day is a toxic waste dump! Use only stainless steel or glass for your animal's food and water dishes, please!

Water quality is such a critical issue when looking at overall health, and we have been lulled for so many years into believing in the safety of our water supply, that we find it easy to just ignore this part, thinking that it doesn't pertain to us. For your own health and that of your animals, do something about your water quality today.

By combining a BARF diet with purified water and wholesome supplements, you can take steps towards ensuring that your animal companion can live a long, healthful life as nature intended.

References & Notes:

1. Give Your Dog a Bone, Ian Billinghurst, BV. Sc (Hons), B.Sc. Agr., Dip. Ed.
2. Grow Your Pups With Bones, Ian Billinghurst, BV. Sc (Hons), B.Sc. Agr., Dip. Ed.
3. Natural Nutrition: The Ultimate Diet for Dogs & Cats - Kymthy Schultze
4. Reigning Cats & Dogs - Pat McKay
5. The Complete Herbal Book for the Dog, Juliette de Bairacli Levy
6. The Holistic Guide for a Healthy Dog, Wendy Volhard & Kerry Brown, DVM
7. Natural Health for Dogs & Cats, Richard H. Pitcairn, DVM, PhD & Susan Hubble Pitcairn

* "Carbohydrates

"There is no known minimum dietary carbohydrate requirement for either the dog or the cat. Based on investigations in the dog and with other species it is likely that dogs and cats can be maintained without

carbohydrates if the diet supplies enough fat or protein from which the metabolic requirement for glucose is derived."

-The Waltham Book of Dog & Cat Nutrition, 2nd Edition (1988)
>*****

"...dogs experience digestive and metabolic limitations to high grain diets, which reflect their evolution on diets relatively low in soluble carbohydrates (Clarke et al. 1990, Kronfeld 1973, Sprouse et al. 1987, White et al. 1993.)

"The nutritional strategy of carbohydrate loading risks a variety of abnormalities in dogs...An alternative strategy of fat adaptation (the combination of fat feeding and training) was found to improve aerobic performance in dogs...and to spare glycogen utilization and reduce lactate accumulation."

"More attention was given to side effects in dogs and horses, species that did not evolve on high grain diets. Attempts at carbohydrate loading led to tying up, a mild form of exertional rhabdomyolysis in racing sled dogs (Kronfeld 1973)."

-Kronfeld et al. 1994. Optimal Nutrition for Athletic Performance, with Emphasis on Fat Adaptation in Dogs and Horses. The Journal of Nutrition 124:2745s-2753s.

"Provided the diet contains sufficient glucose precursors (amino acids and glycerol), the glucogenic capacity of the liver and kidneys is usually sufficient to meet the metabolic need of growing animals for glucose without the inclusion of carbohydrate in the diet (Brambia and Hill, 1966; Chen et al., 1980)."

-Nutrient Requirements of Dogs, Rev. 1985. National Academy of Sciences

1 Mammal Species of the World: A Taxonomic and Geographic Reference, edited by D.E. Wilson and D.A.M. Reeder

2 BARF email list at egroups.com

3 Canine Health Naturally Newsletter, Sandra Brigola

4 Natural Rearing Newsletter, Marina Zacharias

5 Food Pets Die For, Ann Martin

6 Give Your Dog A Bone,

7 Fresh & Whole:Getting Involved In Your Pet's Diet, Randy Wysong, DVM



Where do I start?

The best beginner book I've seen so far is called **Switching to Raw** by Susan K. Johnson. It's available from her at <http://www.switchingtoraw.com> It is \$13.95 plus \$5.00 shipping.

These books can be of considerable help as you grow, learn and change. Most are available from Dogwise at 800-776-2665 www.dogwise.com.

The BARF Diet-Ian Billinghurst, B V.Sc

Give Your Dog a Bone- Ian Billinghurst, B V.Sc

Grow Your Pups With Bones- Ian Billinghurst, B V.Sc

Natural Nutrition: The Ultimate Diet for Dogs & Cats- Kymmythy Schultze

Reigning Cats & Dogs- Pat McKay
The Complete Herbal Handbook Dogs and Cats, Juliette de Bairacli Levy, Arco Publishing, Inc.
1992.

Good additional resources:

Homeopathic Care for Cats & Dogs- Don Hamilton, DVM

The Nature of Animal Healing- Martin Goldstein, DVM

How to Have a Healthier Dog, Wendell O. Belfield, DVM & Martin Zucker, Doubleday & Co.,
NY, 1981.

Keep Your Pet Healthy the Natural Way Pat Lazarus, Bobs-Merrill Co., NY, 1983.

The Natural Remedy Book for Dogs & Cats, Diane Stein, The Crossing Press, 1994.

It's For The Animals! Cookbook, Helen L. McKinnon, C.S.A.Inc, 1998.

The New Natural Cat, Anitra Frazier, Penguin Books, 1990.

Super Nutrition for Animals!, Nina Anderson, Howard Peiper, & Alicia McWatters, MS, Safe
Goods, 1996.

Pottenger's Cats, The Price-Pottenger Foundation, 2667 Camino del Rio South , Suite 109, San
Diego, CA 92108-3767.

Chat lists for support, supplies, reading how others have made the switch can be found at
www.yahogroups.com and
www.smartgroups.com

Put "BARF" or raw diets in the search window to sign up.



Follow these links for more information:

<http://www.geocities.com/Heartland/Flats/7244/diet.html>

<http://www3.sk.sympatico.ca/riverien/nutritogether.htm> Good introductory page

www.wholedane.com

http://www.barfworld.com/sneak_preview/index.html

<http://www.naturalrearing.com>

<http://www.listservice.net/wellpet/wpfaq.htm>

<http://www.jps.net/punchie/barf.htm>

<http://www.auntjeni.com/barf.htm>

<http://www.healthierpets.com/>

<http://www.sentex.net/~sirius/nutro001.htm>

<http://www.skansen.com/>

<http://wholedane.tripod.com/barf.html>

<http://siriusdog.com/nutro001.htm>

http://members.aol.com/abywood/www/risk_rcw.htm

<http://members.aol.com/addieloo/index.html>

Barfworld- Ian Billinghurst <http://www.barfworld.com/main.shtml>

Ian Billinghurst- <http://www.drianbillinghurst.com/>

Kymythy Schultze- The Ultimate Diet <http://home.earthlink.net/~affenbar/>

Pierce Grinder-

[http://www.piercechefmart.com/Merchant/merchant.mv?Screen=PROD&Store_Code=PCM00199
&Product_Code=1150276386](http://www.piercechefmart.com/Merchant/merchant.mv?Screen=PROD&Store_Code=PCM00199&Product_Code=1150276386)

Pottenger's Cats-(scientific article about raw feeding of cats) <http://www.price-pottenger.org/Articles/PottsCats.html>

BARF for cats- <http://www.felinefuture.com/>

Purveyor's Search- finding some food sources in your area -

<http://www.ipindex.com/IPI%20Folder/Header%20Index%20.html>

Follow these links for information on natural commercial foods to which you can add raw foods:

[Back to Basics](http://backtobasicspetfood.com/) <http://backtobasicspetfood.com/>

[Balance Diet](http://www.balancediet.com/) <http://www.balancediet.com/>

[Innova](http://www.naturapet.com/display.asp?frames=1) <http://www.naturapet.com/display.asp?frames=1>



pawsreflect@earthlink.net