

Chapter Six - Fats and Fatty Acids

Cats have the *ability* to digest and use high levels of dietary fat from animal tissues. While they have the ability to digest and use high levels of fat and they do indeed like the taste of fat, their wild grazing animals are LOW in fat (see Table 2). This is just like the “tolerance” language used in carbohydrates. Cats may be able “tolerate” and “digest” cardboard, but is it good for them?

Keep the amount of fat you feed to your cat to a bare minimum. I remove the skin from the chicken I feed my cats. Yes, skin has vitamin D in it, but so does liver and egg yolks. In addition, there’s always the sun as a natural source of vitamin D. Another issue with chicken skin (a/k/a fat) and beef fat is that it throws off the Omega 6/Omega 3 fatty acid ratios. Chicken fat is high in the omega 6 fatty acid arachidonic acid (“AA”). Beef raised on grass have much higher levels of omega 3 fatty acids in their tissues than beef fed grain (see Table 3). You want to feed your cat a diet that is rich in Omega 3 fatty acids, as his natural prey would be.

“Compared to a cat's natural prey (mouse, rabbit, birds), chicken with skin is probably like a double bacon cheeseburger with lots of mayo!”

-Patrick from the Natural Cat List

Cats have a special need for the omega-6 fatty acid, arachidonic acid (“AA”). Many animals, like dogs, can synthesize AA from linoleic acid (“LA”). Cats cannot do the conversion. AA is abundant in animal tissues, particularly organ meats and neural tissues (nerve tissues like the brain, eyes [optic nerves and retina], and spinal cord). Plants do not contain AA. Omega 6 fatty acids are pro-inflammatory, Omega 3 fatty acids are anti-inflammatory. Any food that causes inflammatory conditions should not be fed in excess.

Higher-end pet food brands may state on their label that their food has omega 3 fatty acids in it, often in the form of fish meal. Even if the proper fish were used to make fish meal, EPA and DHA are too fragile to survive the shelf life of commercial pet food. The only reliable source of EPA and DHA is salmon oil in capsules.

A side note, researchers discovered if they supplement chicken feed with fish oils, the chickens were less prone to the parasite coccidia. Cats are also prone to coccidia (Pike). I wonder if cats were fed a bioavailable form of omega 3 fatty acid like salmon oil they too would be less prone to coccidian?

Here's a listing of natural sources for various omega 3 fatty acids:

Linoleic Acid (LA) is an omega 6 fatty acid which is found in processed foods like margarine and vegetable oils, as well as in evening primrose oil, grape seed oil, flax seed oil, and other vegetable oils. May be converted to GLA and AA in humans and perhaps dogs.

Alpha Linolenic Acid (often referred to as just Linolenic Acid) (ALA) is an omega 3 fatty acid which is found in flax oil and black currant oil. Healthy humans and perhaps dogs convert some ALA to EPA and DHA.

Gamma Linolenic Acid (GLA) is an omega 6 fatty acid found in borage, black currant, and evening primrose oils. Healthy humans and perhaps dogs can convert LA to GLA. Cats cannot convert LA to GLA due to absence of delta-6 desaturase activity (a key enzyme in the inter-conversion of fatty acids within the body).

Eicosapentaenoic Acid and Docosahexaenoic Acid (EPA and DHA) are both omega 3 fatty acids found in fatty fish such as salmon, mackerel, tuna, and sardines.

Arachidonic Acid (AA) is an omega 6 fatty acid found in meat, eggs, and some shellfish. Healthy humans and dogs can convert LA to AA. Cats cannot convert LA to AA due to absence of delta-6 desaturase activity.

You will note that LA, ALA, and GLA are all found in plant sources. EPA, DHA, and AA, all essential for cats, are from animal sources. That makes sense since cats naturally eat animals not plants. The omega fatty acids you feed your cats should come from animal sources, not plants.

While they are not considered essential by the AAFCO to date, the omega-3 fatty acids, EPA and DHA would naturally occur in prey animals who consume their natural diet (grass, plants, and seeds). (see Table 3)

Since it is difficult to obtain meat from grass fed animals, we need to improvise in order to feed these important fatty acids to our cats. Fish

who feed on marine plants, especially fatty fish like salmon, anchovies, sardines and mackerel contain both EPA and DHA in their tissues.

NOTE: while some brands of cod liver oil may contain omega 3 fatty acids, it is not advisable to use cod liver oil as a source of omega 3 fatty acids because cod liver oil is extremely high in vitamin A. There is controversy as to whether farmed salmon contain sufficient levels of EPA and DHA in their tissues. It is apparently inherent for fatty fish to have DHA in their tissues. Wild salmon convert the LNA in marine plants into EPA and DHA. Farmed salmon are fed grain that does not contain LNA. Cows who eat grass naturally have EPA and DHA in their tissues. Those who are fed grain do not. Many “salmon” oil capsules contain other fatty fish besides salmon to bring up the EPA levels. That is perfectly fine.

Do not get misled and think you can use vegetable oils like flax or safflower oil to provide essential fatty acids to your cat. Healthy dogs appear to be able to convert the essential fatty acid, ALA, contained in flax oil to EPA and DHA, but remember dogs are a bit more flexible in their digestion abilities, they are able to get some of their nutrition from plant sources. Dogs can convert LA (which is contained in safflower oil) to AA, cats cannot.

Don't mess with Mother Nature. Mice eat seeds and grass and convert the omega 3 fatty acids in the seeds and grass into EPA and DHA. Cats eat the mice and obtain AA, EPA, and DHA from the tissues of the mouse. Since you cannot feed tasty field mice to your cats, use lean, raw meat for the AA and salmon oil for the EPA and DHA.

Save the vegetable oils for your salad dressing.

If a required nutrient can be derived from an animal source, then that is what you should feed. Do not rely on non-animal ingredients to provide nutrition for your cat. If you are going to put the effort into feeding your cat a raw diet, then you should make it as species-appropriate as possible.