



# Feeding Commercial Horse Feed

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So, what's wrong with feeding our horse a processed commercial mix especially designed by experts in equine nutrition?

Adequate and proper nutrition is essential. Every nutrient is necessary for the effectiveness of every other nutrient. If one nutrient is missing or deficient, all other nutrients are affected. Today's processed horse feed is not only nutritionally deficient (lacking proper nutrients because of how the ingredients are grown, processed, transported, stored, treated, prepared or being incorrect forms), but it also is damaging to the horse's body (cells) because it retains toxic residues from pesticides and other agricultural chemicals.

Recently, a massive recall of pet food took place in this country. Thousands of dogs and cats were sickened or died from consuming commercially processed feed, and a current news report is headlined, "Killer Chemical Identified." Keeping in mind that horses are similarly classified as companion animals (not animals raised for human consumption), their feed is processed under the same (lack of) regulation and oversight as feed for our other pets. Reporting on this issue, a *Newsweek* article, "Limited Resources," questioned the inspection and control of the manufacture of feed for these animals and noted that, in response to this present crisis, attention is suddenly focused on the lax regulation of the \$15 billion pet-food industry in this country.

"Technically, the U.S. Food and Drug Administration is responsible for ensuring that pet foods, like human foods, are safe to eat, truthfully labeled and produced under sanitary conditions. But,...FDA officials admitted that the regulation of pet





food takes a back seat to its regulatory obligations of other food and drug sectors, and that inspections of pet-food processing plants are done only on a for-cause basis. 'There are limited resources,' said David Elder, director of the Office of Surveillance and Compliance in the FDA's Center for Veterinary Medicine in Rockville, Md. Elder added that inspections of companion animals' food products are 'based on risk.' Which means that the processing plant... where the tainted food was manufactured had never been inspected by government officials until after consumers started complaining about pets dying of kidney failure."

The article goes on to say, "But without regular inspections, the pet-food industry is largely self-regulated. In the United States, the Association of American Feed Control Officials sets guidelines and definitions for pet foods, and there are other government standards and regulations that companies are *expected to heed through their own quality-assurance programs.*"

Several causes of the tainted food are under suspicion, including *toxins, chemicals and heavy metals.*

### **Fillers**

What are we really feeding our horses when we buy a bag of processed commercial horse feed? It can certainly be a puzzle. Standard equine feed tag labels now read like a jumble of unrecognizable ingredients, listing such obscure items as "processed by-products." A "by-product", for our horse feeding purposes, can be defined as those items that provide little to no real food value of the kind we are looking for today, or those items containing more harmful residues or having more toxic effects from various residues than their nutritional, feed value worth.



Some by-products such as "wheat middlings," which are the leftover cleanings and screenings of the wheat that goes into human foods, are so laden with dust, dirt and mold spores that they resemble granary floor sweepings. These useless and filthy by-products and fillers serve no purpose other than diluting our horse's digestive juices and challenging his gut. The size of the horse's total digestive, packed with useless fillers, is not reduced on its way toward elimination because so little of it can be absorbed as nutrition. It continues to expand the gut - all the way out - making more manure to clean up and leaving our horse with a prominent "hay belly."

If we have an insulin resistant horse, we should also be aware that pesticide-laden hulls of all kinds are being used as fillers for the new low NSC feeds and as components of many popular supplements. Hulls are quite indigestible and are listed by the USDA as low-nutritive agricultural wastes or by-products.\* Diluting feeds with this residue does reduce the NSC level, but, when consumed, this junk dilutes and diverts the gut's digestive enzymes so that correct processing of the nutritional portions of the feed is impaired. The reduced nutrition that results further weakens the already compromised body of an IR horse.

### **Preservatives**

Of course, along with these fillers and by-products comes the need for high



levels of strong chemical preservatives. Ethoxyquin, common in commercial horse feeds, is such a powerful preservative that it is rarely found in human food. First used as a rubber preserver and stabilizer, Ethoxyquin found its way into companion animal feed as a cheap and excellent source of preventing rancidity for periods as long as a year. It is classified as a toxic chemical with a rating of three (on a scale of 1-6) with six denoting the highest toxicity (less than seven drops will produce death.) Ethoxyquin is approved for use in pet food at the rate of 150 ppm. The manufacturer does not have to state Ethoxyquin on the label if they, themselves, did not add the preservative to the feed. However, every ingredient comprising the final bag of horse feed could be preserved with this dangerous preservative, compounding the total amount in the final product.



When toxic preservatives are added to food that normally decomposes with help from the body's digestive microorganisms, these chemicals interfere with the microorganisms' duties and even kill them. The only life enhancement that these preservatives benefit is the total shelf life of processed, by-product filled feed.

### "Cooked" Feeds

Another method of extending the shelf life of commercial feeds is to "cook" them. These feeds are either "pelleted" at the standard 160°F or "extruded" at 350°F, the temperature of deep fat frying. At temperatures over 120°, the helpful digestive enzymes that are actively and naturally contained within the food itself are destroyed as are several essential vitamins. In this "cooking" process, some critical mineral carriers are eliminated as well. In addition, extrusion causes the fats and oils to become trans fats that are highly inflammatory and cause toxic bloat ("fake fat" on the body.)

### Dangerous Fat Content



The current trend in commercial horse feed is high fat content. This often means the addition of significant amounts of lard-saturated fat trimmings from slaughterhouses. Not only are these animal fats inappropriate for equine herbivores, they are also storage depots for environmental toxins and growth hormones that the source food animal was fed or exposed to. A horse's body needs fats and oils to build cell membranes, but they must be the right kind. Essential fatty acids are the right kind, and the body cannot make them. Therefore, they can only be obtained from food. These fatty acid molecules have a specific shape, and they fit

closely together to form strong cell membranes. When oils are heat processed, they change shape and become "trans fats". These modified oil molecules will cause cells to become leaky and brittle.

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Corn oil is frequently recommended as a carbohydrate substitute when grains are reduced or eliminated from the horse's feed. However, corn oil is highly inflammatory to cell membranes, as are all vegetable oils that are high in polyunsaturates and low in monounsaturates. These oils will cause serious problems related to lowered basal metabolism "lowered basal metabolism" because the cell membrane is composed of essential fatty acids that the polyunsaturates affect and compromise.

Canola, coconut and olive are oils, generally not found in processed commercial horse feeds, have a significant amount of the "good" monounsaturated fatty acids, although coconut and olive oils are also higher in saturated fats. Soy, corn, safflower and sunflower are higher in the inflammatory polyunsaturates.

Horses are vegetarians by nature and by genetics. They have tremendous difficulty digesting these saturated, cooked, contaminated, trans fatty acids. Now, with many equine diseases approaching epidemic proportions, the very LAST thing these sensitive horses need are inflammation enhancing ingredients in their feed. Remember, it takes higher quality nutrition to restore health to a sick body than to maintain a body that is already healthy.



So, with a sick environment and a sick planet, we need to do more, nutritionally, than if the planet were healthy. This is why the old ways do not work any longer.

### **Incomplete or Misleading Labeling**

There are two ways of labeling feed. The first is an "open" label where only the categories of feedstuffs are listed so ingredients can be switched daily if necessary to take advantage of items that fall in price on the grains stock market. The other is a "closed" label, where the recipe does not vary at all no matter how the price of the raw ingredients changes.

The closed system guarantees the same ingredients all the time in the same proportions, but the final product can be more costly and variable in price. The open label will list such terms as "plant protein products", "plant forage products" and various "by-products". Protein products include meals such as soy, alfalfa meal, linseed or canola (and, remember that the poisonous melamine that contaminated the recently recalled dog and cat food was



used to increase protein levels.) Forage products can include alfalfa meal, rained on old hay that cannot be sold as good hay and ground up haylage. By-products are those with little nutritional value, such as wheat middlings, ground corncobs and seed hulls of all kinds.



When attempting to stabilize a horse with physical problems, an open feed tag will invariably spell trouble. Just as the problems appear to resolve, they can suddenly flare again, and the feed won't be suspected as the cause. Although the ingredients have changed, the feed tags are still the same, and no one can detect the difference.

An ingredients list should be made available on each bag of feed, but under current "open tag" USDA laws, this is not required. Many feedstuffs can be classified as simply "forage products", "grain by-products" or "protein products," and the exact ingredient does not have to be identified. Composition of the feed can vary from day to day depending on what was "on sale" that day.

### Mineral Supplementation and Deficiencies

In the past, before our soils were "farmed out" and soil deficiencies were not a problem, little mineral enhancement of livestock feeds was needed. It was only necessary to add a few minerals, especially for certain known deficient geographic regions. And, because we needed our horses for survival- in food production, war, and transportation- we took better care of them in order to extend their productive lives. To meet these smaller nutritional needs, we could safely use the common inorganic salt forms like sulfates and phosphates to produce inexpensive feeds. Although these additives weren't completely non-toxic, only a small amount was used, so toxicity wasn't the problem it is today.

Today, mineral deficiencies are high and climbing, aggravated even more by the biochemical interferences of the heavy metal toxins and acid rains. And now we cannot use the same old chemical salts of sulfates and phosphates because they are acid causing and add to the organic acid toxins already in the environment and in all living systems. Unfortunately, the equine feed industry continues to use phosphates and sulfates because they are cheap to produce.

We also need to understand that, under legislation passed in 1976, toxic waste chemicals are approved additives to our feed grade XE "feed grade" minerals and salts, including the common trace mineral salt. Currently, trace mineral salt contains about 2100 ppm of arsenic. It is not new information that these heavy metals will skew mineral ratios in the body and seriously disrupt biochemical pathways and hormone feedback loops, causing the abundance of metabolic syndromes XE "metabolic syndromes" we are seeing today. So the actual foods aren't so much the problem as the toxins that are deliberately added to them.



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All minerals can be toxic in one chemical form and nontoxic in another. This means that the amount that causes bodily overload can be drastically different depending on what form is consumed. Most cheaper minerals are inorganic and more unlike the body. Therefore, they can have a higher toxicity at lower levels. When we make minerals bioavailable, we reduce their toxicity because they are more like what the body wants and can use. The chemical form makes all the difference, and most minerals added to processed feed are the cheaper, inorganic forms.

Why not feed the commonly prescribed diet for insulin resistant horses of beet pulp with balanced minerals?

Beet pulp is residue from the processing of sugar beets. It is an agricultural waste product that contains sugars not represented on the label. While growing in the field, the beets are dressed with commercial fertilizers contaminated with heavy metals and hazardous wastes. Resilient, water-impervious, fat-soluble pesticides and fungicides, containing toxic amounts of manganese, adhere to the outer surfaces of the beets. To extract the sugar, the beets are ground, soaked and washed, and the remaining fiber or pulp is dried, concentrating the lipophilic pesticides even more. These pesticides and herbicides, because they are fat-soluble and not water soluble, cannot be removed by rinsing the processed, dried final product. The part of the crop that holds the highest concentrations of these synthetic chemicals is what is sold for horse feed.

Then, of course, we need to add vitamins and minerals to this nutrient deficient "base." The supplements marketed for our horses are generally feed grade (not even human food grade and certainly not pharmaceutical grade) and governed by the same unmonitored regulations and inspections applied to feed processing. Also, unless we've had a hay and pasture analysis done, we won't know exactly what our horse truly needs added to his diet or what he already is consuming in excess.



"Commercial animal feeds (even the best known and most expensive brands) have had their nutrients altered, adulterated, devitalized and destroyed by heat, processing, coloring, preservatives and other chemicals. Feeding your animal such food on a regular basis causes waste-toxins accumulations in the blood, lymphs and tissue which contributes to a weak immune system and renders our animals susceptible to chronic diseases. " ~ Dr. Donald Ogden D.V.M.

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