

# Essential Fatty Acids; Key in Horse Health

By Jessica Lynn

Published in Equine Wellness,  
1<sup>st</sup> Edition, Summer 2006

Good nutrition is the cornerstone of a horse's health and one important aspect of equine nutrition is Essential Fatty Acids.

For animals and people there are basically three forms of foods – proteins, carbohydrates and fats. Proteins are made up of amino acids, carbohydrates are derived from sugars and starches and fats come from either vegetable or “seeds”, or animal sources such as tuna, mackerel, butter or lard. Although some fats are good for our horses, others are not. Obviously animal fats would not be, and some fats, depending on processing may actually cause an inflammatory response in some horses.

Horses can't synthesize some Essential Fatty Acids (EFA's) and must acquire them in the diet. Most of our horses are kept in “un-natural” environments where they are not able to forage in natural pastures filled with variety, and instead are fed diets of stored hays and overly processed feed stuffs. This processing coupled with extended storage destroys the essential enzymes along with any naturally occurring EFA's.



## Why supplement with EFAs?

Many people think that feeding “fats” or EFA's to a horse is unnecessary and that they do not “eat” them in nature. The fact is that horses in the wild or on healthy pasture eat “seeds” which contain natural EFA's, and when you feed whole unprocessed oats or other grains, they also are in fact getting EFA's in their most natural source.

**Please note:** Horses who are metabolically challenged such as “easy keepers” or Insulin Resistant horses who are or have been laminitic, shouldn't have the grain in their diet, be turned out in lush pastures, or have high sugar hay without risking another bout of their particular disorder. They do need to be supplemented with the EFA's to support the various biological processes in their

bodies with either high quality oil, ground flax seed, sunflower seeds, etc.

Many biological processes in the horses body need EFA's as they are essential for production of hormones, as well as absorption of vitamins A, D, E & K. Essential Fatty Acids are components of very important regulatory substances called prostaglandins which are responsible for transporting oxygen to the tissues, controlling inflammation, synthesizing hormones and maintaining cellular tissues.

Omega 3 is a fragile compound, extremely sensitive to light, heat, and oxygen, so is not readily available in commercial feeds or supplements. You will more often see "Omega-6" listed on commercial horse feed bags, however, it is most often derived from highly processed corn, soy or other inexpensive oils, and these kinds of oils can set up a "catabolic" or internal muscle wasting injury prone state for the horse, and may in fact exacerbate EPSM horses muscle wasting conditions.

Fatty Acids provide a dense source of calories, supplying a sustained source of energy for horses in heavy training, showing or competing. This is of particular importance as EFA supplementation is also a "calming" energy source because it helps to stabilize blood sugar, preventing sugar related mood swings.

Diets high in fats and oils have been advocated for horses who may have Equine Polysaccharide Storage Myopathy (EPSM), Insulin Resistance

(IR), horses with equine eczema and ulcerative colitis. For laminitic horses, a study performed at the University of Georgia shows that supplementing with Omega 3 may help to inhibit the occurrence of laminitis. It has also been shown to support hoof growth.

For the metabolically challenged horse supplementing with EFA's helps to reduce glycemic responses and insulin release when fats or oils are top dressed as part of a high fiber, low carb diet. The fat slows gastric emptying and starch digestibility so that it stabilizes the sugar and carbs resulting in no sugar spikes. However, the fat or oil given to these horses needs to be of the highest and most naturally processed kinds.

EFA's have also been found to assist in producing anti-inflammatory substances in the body, which are necessary for proper immune function, collagen formation, and the prevention of some arthritic conditions; some studies have shown supplementation of EFA's will enhance the integrity of joint and connective tissues as well as bone density.

### **Quality EFA Sources**

Since some oils are not as stable as let's say butter, many manufacturers will hydrogenate (or process) them which can result in toxic residue being left behind. The heat process can also damage some of the biological usefulness and reduces the amount of naturally occurring Vitamin E. It is important that any oil you might choose to feed your horse be un-processed, cold pressed and natural.

Do not confuse “Essential Fatty Acid” oils with supermarket products such as corn or vegetable, which are over processed and very toxic, as well as inflammatory to a horses system. For an oil to contain EFA’s it must be fresh and un-refined (non-hydrogenated). Many feed stores are now carrying un-processed EFA rich oils for your horse, as are several of the equine nutritional companies which can be ordered on line.

Feedstuffs which contain both Omega 3 & 6 fatty acids include flax, Sunflower, safflower, sesame and hemp. Flax contains the highest concentrations of Omega 3 (Alpha Linolenic acid) which is very lacking in horses fed only hay, while sunflower, hemp and soy contain the highest amounts of Omega 6 (Linoleic Acid) and coconut oil contains Omega 7 (Palmitoleic Acid).

### **Take Home Message**

As with most “Amino Acids”, Essential Fatty Acids are ones in which your horse cannot manufacture themselves and must acquire them through diet. Feeding un-processed (un-refined) oils or quality seeds, rich in EFA’s can provide a pleasant aroma and taste to your horses feed, while providing the essential fatty acids he needs to be able to have sustained energy, utilize certain vitamins including B, E, and K, put a lustrous shine to his coat. EFAs may even help in preventing some types of colic and laminitis in many horses by slowing the metabolism of their feed stuffs. Essential Fatty Acids are an important piece in the horse nutrition puzzle and by

offering a high quality source, you are helping to ensure health for your equine friend.

**Author Bio.** Jessica Lynn is a writer and the owner of Earth Song Ranch, a licensed natural feed and supplement manufacturer based in Southern California. Jessica has been involved in alternative health care, homeopathy and nutrition for almost 45 years, using it for her family, including her kids, horses, border collies and cats. Jessica personally formulates and manufacturer’s all of the Earth Song Ranch nutritional products. She may be contacted via e-mail at [Jessica@earthsongranch.com](mailto:Jessica@earthsongranch.com). The Earth Song Ranch web site includes informational articles, links to like minded individuals and companies [www.earthsongranch.com](http://www.earthsongranch.com)

### **SIDE-BAR**

#### **Common Benefits of Essential Fatty Acids**

- **Healthy skin, coat and hooves**
- **Helps to stabilize sugar and carbohydrates, reducing glucose spikes**
- **Supports immune system function**
- **Builds healthy joints and suppresses inflammation**
- **Advocated for Insulin Resistant and EPSM horses**
- **May help prevent laminitis**