

# Equine Hair Growth

By The Nude Horse  
(Equine Epidemiologist)

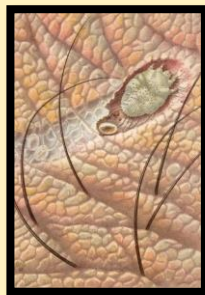
Healthy hair growth occurs when dietary needs are met adequately, supplying the necessary building blocks for the natural biological processes to occur according to genetic makeup.

Often in domestic confinement, as most horses are kept in modern times, necessary nutrients may be unavailable in the correct ratios to assist this process to occur naturally at a speed we would expect.

Horses confined to paddocks or stables, are also often in close proximity to other horses creating a breeding ground for diseases and parasites.

Diseases that cause damage to the hair shaft or follicle include bacterial, fungal or parasitic infections. Diseases that can directly inhibit or slow hair follicle growth include **nutritional deficiencies** or **hormone imbalances** (hypothyroidism). Temporary hair loss can also occur after a severe illness or fever.

**Sarcoptes** is perhaps the best known cause of itch and hair loss in the mane and tail of horses. The microscopic female mite when impregnated tunnels into the skin and deposits eggs in the burrow. The larvae hatch in 3 to 10 days, move about on the skin as they mature into adult mites. Adult mites live three to four weeks in the host's skin.



The action of the mites moving within the skin and on the surface itself produces an intense itch that may resemble symptoms of QLD Itch. Their excreted faeces resemble dandruff or scurf and are often mistaken as just that. Thinning of the hair occurs as they damage the hair follicles causing reduced hair growth and hair thinning.

Some skin disorders do not cause itching, but secondary infections such as bacterial or yeast infections which cause the horse to itch and subsequently hair loss. It is possible by the time the itch occurs the initial skin disorder is long gone. Your vet will perform a skin scraping to identify the cause of the itch, likely parasites are considered as the first cause of an itch.

**Rain scald** can be attributed to *Dermatophilus Congolensis*. This organism likes to infect traumatized skin, particularly in the presence of high moisture. Young horses with poorly developed immune systems are at a higher risk of getting rain scald. Skin trauma can be initiated by abrasions, insect bites or frequent rain exposure that softens the skin, particularly along the horse's top line.

## The Science behind hair growth

Hair has two distinct structures the follicle and the hair shaft.

The hair follicle is a tunnel like segment of the epidermis that extends down into the dermis (skin). The structure contains several layers that all have separate functions. At the base of the follicle is the papilla which contains capillaries that nourish the cells. The living part of the hair is the bottom part surrounding the papilla, called the bulb. There are two sheaths that protect the growing hair shaft. The inner sheath follows the hair shaft and ends below the opening of a sebaceous gland (produces sebum).

Protecting the follicle from damage, chemicals and itch enables normal hair growth to occur.

It has been documented that hair growth can be stimulated through dietary supplementing and also external application of various substances. Of interest are Emu Oil, Lavender Oil and Coconut Oil for their therapeutic properties including being non-comedogenic, anti-inflammatory and potential follicle stimulants.<sup>A</sup>

Topical application of a blend of oils suited to intense hair conditioning and follicle protection can potentially improve hair growth and quality.

Experts already know that there is a strong link between hair loss/growth and nutrition.

Listed here are a few key nutrients ideally included in the equine diet in scientifically balanced proportions to ensure healthy hair growth.

## Nutrients to support hair growth

### Methionine:

Methionine is an essential amino acid that helps against premature hair loss. It also improves hair texture, quality and growth. Methionine is a powerful anti oxidant and a good source of sulphur, a necessary nutrient that helps prevent hair disorders. Methionine increases blood flow to the skin surface thereby increasing nutrient supply to hair follicles and aiding hair production.

### Organic Selenium:

The antioxidants of selenium help the body absorb Vitamin E. Selenium also aids the body in processing and using proteins that are consumed. Hair is primarily composed of proteins so when the body is able to better process the proteins, hair growth will follow. Deficiencies in selenium (and zinc) often lead to hair loss. Organic Selenium has been found to have higher digestibility than inorganic selenium.

### Organic Manganese:

Deficiencies of this important mineral may result in impaired hair growth, poor wound healing and other skin issues as well as loss of hair colour. *Without Manganese biotin cannot be used efficiently.*

### Organic Chelated Zinc:

Like the skin, the hair has considerable need for the mineral nutrient zinc. Zinc is involved in the building of keratin, which is one of the main components of hair, skin and hooves. A horse needs zinc for the formation of collagen which helps anchor the hair in the skin. Zinc also facilitates the necessary cell division which makes the growth of hair possible. Hair loss may be the first sign of zinc deficiency. In an chelated organic form zinc is able to be absorbed and utilised more efficiently.

### Biotin:

Biotin has long been associated with equine hoof care and hair growth. A horse fed Biotin can expect a shinier healthier coat with improved overall skin condition. *Biotin is best fed in conjunction with Manganese for optimum function.*

### Omega Fatty Acids

A 6 month trial on women with hair loss were given a mix that included 460mg of Fish Oil per day with these impressive results:

- \* 89.9% said their overall hair loss has decreased
- \* 78.5% said their hair diameter had improved
- \* 86.1% said their hair was shinier
- \* 85.9% said their hair had more volume
- \* 84.8% said their hair was softer <sup>B</sup>.

Cod liver oil is nature's own correctly balanced Omega 3 to Omega 6 ratio and delivers forms of ALA, EPA and DHA. Plant based omega 3 fats such as flaxseed/linseed deliver a small amount (less than 10 percent) able to be converted into EPA and DHA. Fish oil on the other hand provides pre-formed EPA and DHA ready to be absorbed and utilised.<sup>C</sup>

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- A. <http://www.google.com/patents/WO1996034596A2?cl=en>
  - B. <http://www.hairsentinel.com/omega-fatty-acids-and-hair-loss.html>
  - C. <http://www.bodyandsoul.com.au/health/natural-health/flaxseed-vs-fish-oil/news-story/3bed1de7cd8aea60c2ca34a8b3982366>