

InClover Sleek® skin & coat for cats, clinical data

Biotin is a water-soluble essential B vitamin that plays an essential role in maintaining healthy skin and coat (Watson, 1998) (Goldberg & Lenzy, 2010). This is because biotin is an essential cofactor for enzymes that catalyze the formation of keratinized tissues (skin, hair, and claws) (Maynard et al., 1979). Furthermore, many of the enzymes directly involved in the synthesis of long-chain fatty acids used for the keratinization process are biotin-dependent (Meyer et al., 1998)(Weiss & Zimmerly, 2000). Increasing the formation of keratin promotes the growth rate of healthy hair follicles as well as fortifies claws/nails (Neuber, 2009). Biotin has been shown to be effective in treating skin conditions such as dry, flaky skin, dull or thinning coat and excessive shedding at a cellular level (Frigg et al., 1989) (Goldberg & Lenzy, 2010).

Fish oil contains essential omega-3 fatty acids EPA and DHA which have been shown to improve skin and coat health by reducing inflammation in the skin through regulation of inflammatory mediators (Rees et al., 2001) (Watson, 1998). These fatty acids also work as conditioning agents to improve the softness and luster of the coat (Kirby et al., 2009) (Bauer, 2007). Omega 3's can also effectively manage symptoms associated with pruritic skin conditions (Kirby et al., 2009) (Logas & Kunkle, 1994). Choosing the correct source of DHA gold is a crucial step in ensuring that its full range of health benefits are realized as not all omega-3s are equal (Doughman et al., 2007). A preformed source of DHA gold such as microalgae makes sure that the DHA is taken directly from the source and is consistent, sustainable and free of ocean-borne contaminants (Lenihan-Geels et al., 2013) (Ward & Singh, 2005).

Coconut (*Cocos nucifera*) is rich in antioxidants and has antiviral, antifungal and antibacterial properties. It also contains lauric acid that improves skin condition by fighting potential infections, bacteria, and fungi (DebMandala & Mandal, 2011). The primary fat in coconut oil which makes up roughly 62%-65% is MTC oleic acid (medium chain triglyceride) which helps strengthen and condition skin and coat while also adding shine (Rele & Mohile, 2003) (Agero & Verallo-Rowell, 2004). Additionally, the high concentration of MTC in coconut oil has been shown to be effective in treating symptoms of dandruff (Sharma & Joshi, 2004)(Krishna et al., 2010).

Deficiencies in the gut often manifest themselves in the skin and coat of animals and can appear in the form of dermatosis, skin flaking, itchiness, dandruff and general dryness (Young et al., 2010). Ensuring proper absorption of essential nutrients and minerals can significantly improve a pet's skin and coat condition. Organic inulin prebiotic promotes the growth of Bifidobacteria and Lactobacilli in the gastrointestinal tract (Wang & Gibson, 1993)(Young et al., 2010). Increasing the concentrations of these good bacteria improves the absorption of essential nutrients for the maintenance of skin and coat as well as promotes better microflora balance on the skin of the pet (Cummings et al., 2001) (Beloshapka et al., 2012). Furthermore, these good bacteria produce short-chain fatty acids which regulate the beneficial effect of dietary fiber and help to prevent the colonization of pathogenic bacteria in the gut (Flamm et al., 2001)(Flickinger et al., 2003). In this way, working from the inside out, the functioning and appearance of the skin and coat is improved.

Zinc is an essential mineral that is fundamental to many aspects of cellular metabolism, some of which are concerned with the maintenance of healthy coat and skin (Watson, 1998) (Kane et al., 1981). In particular, Zinc helps to modulate keratogenesis, skin functions and wound healing (Colombini,1999). Zinc also works alongside Biotin to manage symptoms associated with canine dermatosis including alopecia, scales and crusts and dry, dull coat as well as increasing coat gloss (Marsh et al., 2000) (White et al., 2001) (Kane et al., 1981).

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