

EUDERMIS

COMPLEMENTARY FEED FOR DOGS AND CATS INTENDED FOR PARTICULAR NUTRITIONAL PURPOSES SUPPORT OF SKIN FUNCTION IN CASE OF DERMATOSIS AND EXCESSIVE LOSS OF HAIR

High level of **essential fatty acids** from Fish oil, Blackcurrant oil, Olive oil, Borage oil.

With **Zinc** and Propolis as source of flavonoid **Chrysin**

ATOPIC DERMATITIS: THE MECHANISMS UNDERLYING THE BENEFICIAL ACTION OF DAILY FATTY

ACIDS SUPPLEMENTATION AND THE ROLE OF ZINC ASSOCIATED WITH CHRYSIN FROM PROPOLIS

BIBLIOGRAPHY

Pet dermatological issues are a statistically relevant complaint reported to veterinarians. Etiology varies but symptoms are frequently similar including pruritus, alopecia and erythema, atopic dermatitis (AD) are most common clinical cases.

Clinical findings demonstrated how a daily supplementation with fish oil rich in EPA and DHA can reduce prostaglandins (PGE2) concentration as well as proinflammatory cytokines (IL-1 and IL-6) activity, thus contributing to reduce flogosis (1).

Scientific literature evidenced how oral administration of Omega 3 can be effective in reducing pruritus (2) and how it can help reducing prednisone and cyclosporin dosages in AD affected dogs (3): this could be due to PUFA ability to integrate in mast cell membrane, creating micro-domain capable of alternating their functions (4). **Primrose oil, as well as Blackcurrant seed oil, has numerous benefic properties mainly due to their gamma-linolenic acid (GLA) content (5,6,8) responsible for improved oxygenation, antioxidant effects, ant inflammatory effects proven in vitro and in vivo (5,6) and increased balance of skin barrier (7).**

Alpha-linolenic acid (ALA) -a natural occurring Blackcurrant oil polyunsaturated fatty acid (PUFA)- can play a key role in balancing physiologic wellbeing of skin and coat (9).

Zinc is a microelement important in a multitude of biological functions, including regulation of the immune response, modulation of keratogenesis and wound healing, maintenance of normal reproductive function, and acuity of taste and smell (10).

Many dog dermatoses have been successfully treated with Zinc oral supplementation (11).

Propolis has been proven to have a protective and wound healing effect (13, 14), and one of its constituents called Chrysin (5,7-dihydroxyflavon) has numerous proven positive effects (ant inflammatory, antioxidant and anticancerogenic) and has lately been studied in an animal model of atopic dermatitis in vivo: BALB/c mice exposed to DNCB (2,4-dinitrochlorobenzene) and DFE (*Dermatophagoides farinae*) developed skin lesions similar to atopic dermatitis ones.

Oral administration of Chrysin reduced AD symptoms such as skin thickness, while histopathological investigation showed reduced serum levels of IgE and IgG2a, mast cell skin infiltration, reduced serum histamine. Moreover, Th1, Th2 and Th17 inflammatory response was inhibited.

These results together show how Chrysin can suppress AD symptoms and could be a valid support in allergic skin disease treatment. (12)

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