

ESSENTIAL OILS AND PUMPKIN EXTRACT FOR INTESTINAL WELLBEING IN CASE OF WORM INFESTATION IN DOGS AND CATS

Dogs and cats worms are quite common findings in daily clinical routine, and such conditions are characterized by high morbidity and weight loss.

This condition can furthermore entail bacterial, protozoal and viral infection.

Moreover it has to be reminded that some of these parasites are zoonotic and could be transmitted to humans.

Due to increasing development and the spread of common anthelmintic drug resistance within several worm types and classes, essential oils and botanical extracts, traditionally known for their anthelmintic and anti-bacteria properties, have been further investigated in order to provide an effective food supplement in case of dog and cat worm infestation.

Pumpkin seeds

Pumpkin seeds (*Cucurbita maxima* Duchesne) anthelmintic properties are since long well known, and their use for human and animal health, has been reported by tradition (1).

As proven in recent studies, *Cucurbita* species seeds extracts nematocidal action is due to cucurbitin, cucurbitacin, saponins and sterols (3).

Anthelmintic effect has been proven and reported (2,5), likewise, the absence of negative effects on health of involved animal models (3).

Garlic essential oil

Hippocrates mentioned garlic (*Allium sativum* L.) as a remedy against intestine parasites: such remedy is still nowadays widely used.

Recently, the effectiveness of garlic as anthelmintic remedy, has been demonstrated on an in vivo animal model (6).

Its capability of reducing egg fecal excretion, producing larvae paralysis and negatively influence hatchability was proven through in vivo trial (7).

Moreover, in a compared efficacy evaluation performed on nematodes, garlic obtained better results than ivermectin (91.24 % vs 78.03 %) (6).

Tea Tree essential oil

Terpenoids confer to *Melaleuca alternifolia* essential oil the anthelmintic activity, as demonstrated by in vivo studies where ovicidal and larvicidal effectiveness was demonstrated (8).

Recent papers also highlighted the strong elminticidal action, due to the dose-dependant inhibition of acetylcholinesterase (9).

Tea tree is furthermore a strong natural antibacterial compound, and this makes *Melaleuca alternifolia* essential oil suitable to contribute in controlling potential infective consequences of worm infestation in dogs and cats, by inhibiting a wide range of pathogens (10).

Cinnamomum essential oil

In-vitro and in-vivo studies demonstrate how cinnamomum essential oil (*Cinnamomum zeylanicum*) can help controlling viral and bacterial infections while exerting a strong anti-parasitic action (12).



Terpenoids, and specifically cinnamaldehyds isomers, are supposed to be responsible of nematocidal action evidenced in an in vitro animal model (11), thus validating its traditional use and well founding of former numerous findings of scientific literature. Likewise, its proven antibacterial properties make this essential oil particularly suitable as an effective remedy against worm infestations.

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