

ENTER STOP

INDICATIONS AND PROPERTIES

• **Thymol** (essential oil of *Thymus vulgaris*)

Thymol is a natural phenol monoterpene found in the essential oil of common thyme (*Thymus vulgaris*) with strong antimicrobial activity against a wide range of Gram positive and Gram negative bacteria, and is one of the most well-researched active components of essential oils. Thyme (*Thymus* spp.) and oregano (*Origanum* spp.) oils contain large but variable quantities of thymol.

Thanks to its toning, antiseptic, spasmolytic and carminative properties, it is particularly indicated for enteric diseases, including the chronic ones. It has been also documented its antiparasitic, antifungal and antioxidant activities. Thymol causes disintegration of the membrane of bacteria and hence leading to the release of membrane-associated material from the cells to the external medium. It has been seen that dietary supplementation of thymol has a beneficial effect on intestinal microflora and digestive enzymes.

Compounds with phenolic structures, such as thymol, are more effective as antimicrobials in comparison with other non phenolic secondary plant metabolites because of the presence of a hydroxyl group in the phenolic structure. Furthermore, the small molecular weight of thymol allows it to gain access to the cell membrane through the pores of the external wall.

• **Carvacrol** (essential oil of *Origanum*)

Carvacrol is found in the essential oil of oregano. It shows different activities, such as antimicrobial, antifungal, antitumor, analgesic, antispasmodic and anti-inflammatory. Carvacrol can inhibit the growth and kill the pathogens producing toxins in the gut and which are associated with gastroenteritis, haemorrhagic diarrhoea and kidney failure. Carvacrol inhibits these bacteria by damaging their cell membrane integrity. Carvacrol supports the balance of the digestive and of the immune systems. Key feature is its minimal impact on the probiotic species found in the gut.

Numerous studies demonstrated the capability of carvacrol to improve performance indices, feed utilization, immune functions and health of livestock. This could be due to its ability as antioxidant and immunomodulatory agent by preventing free radicals and hazardous compounds from interacting with cellular DNA and its ability to change the gut microflora, thus improving digestion coefficient and absorption of nutrient compounds.

• **Cinnamaldehyde** (essential oil of *Cinnamomum verum*)

Cinnamaldehyde is a phenylpropanoid with antimicrobial activity, is the main active component of cinnamon oil, accounting for up to 75% of its composition. The antimicrobial activity of cinnamaldehyde is likely related to the reactivity of its carbonyl group. Cinnamaldehyde does not affect membrane stability and suggested that its mechanism of action is related to its interaction with proteins in the periplasm or deeper parts of the cell.

It is a well-known antimicrobial, antiparasitic, carminative, astringent and eupeptic. It is common used for intestinal diseases, particularly gastroenteritis. Studies have shown that cinnamaldehyde stimulates the lymphocytes and reduces the fecal concentration of *E. coli*.

INSTRUCTION FOR USE: 500-1000 ml
ENTER STOP/1000 liters of water

PACKING: 5-liter and 20-liter tanks

**For further information, please send and email
at info@biotrade.it**



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