



THE OREGANO PEOPLE

DOSTO FARM<sup>®</sup>



focus on  
**DOSTO**

## Swine Dysentery

Natural DOSTO<sup>®</sup> Oregano oil  
against *Brachyspira spp.*

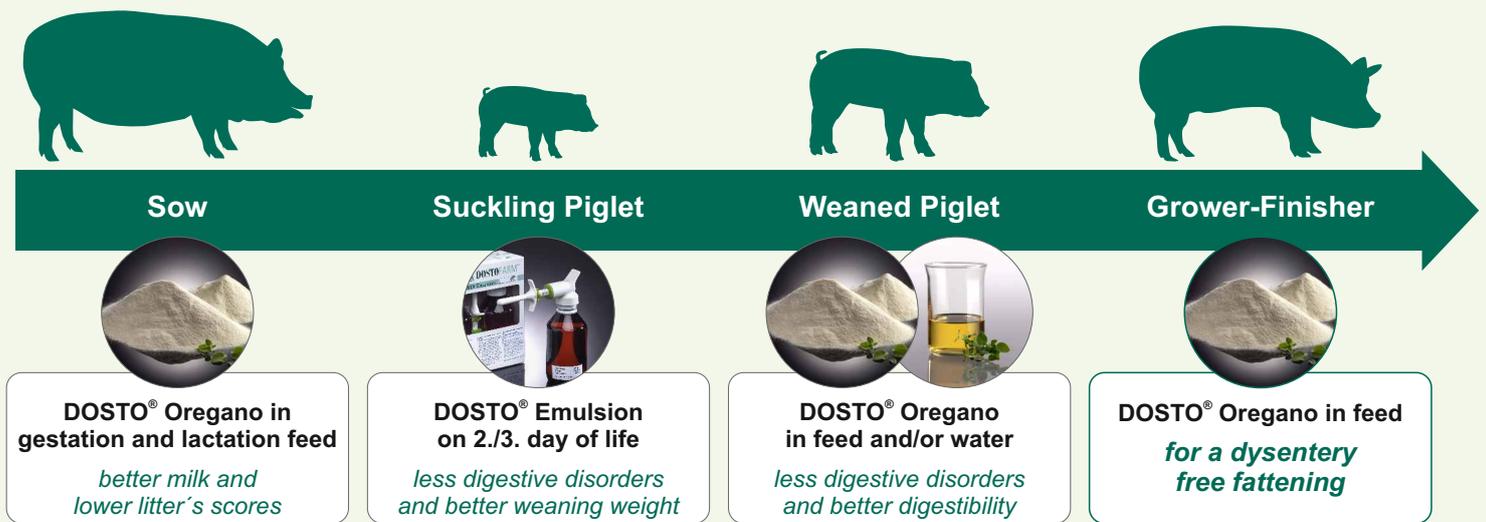
## DOSTO® Oregano Oil for Pigs

The essential oil of DOSTO® Oregano has proven antibacterial, immune stimulant, antioxidant and intestinal microbiota modulating properties. Thanks to this high versatility our products have a wide range of applications from the sow and piglets to the finishers.

Several pathogens (*E. coli*, clostridia, coccidia, etc.) can affect our herd, causing growth impairs and economical losses.

By adding DOSTO® Oregano oil to the feed or water, we have healthy animals with a strong immune system. Outbreaks can be successfully prevented and the use of antibiotics reduced.

Other diseases like dysentery are almost impossible to eradicate, especially in the growing pigs. In these cases, DOSTO® Oregano supports the medical treatments, minimizing the symptoms and avoiding reinfections.



## Swine dysentery

Swine dysentery (SD) is caused by a small, spiral shaped bacterium called *Brachyspira hyodysenteriae*. This type is strongly beta-hemolytic and highly pathogenic. Especially in the growing pigs causes red blood cell destruction (hemolytic), mucus producing, bloody diarrhea with a severe inflammation of the large intestine, affecting the absorption of water into the body.

Recent studies have identify several *Brachyspira* types (weakly beta-hemolytic) which were considered predominantly non-pathogenic but may facilitate colonization and lesion formation (Table 1).

Two of these strains are *B. innocens* and *B. pilosicoli*, found in the large intestine of many swine and are easily mistaken for *B. hyodysenteriae*, have worldwide distribution and cause a milder, non-hemorrhagic colitis.

Infected animals can be treated with antibiotics and certain strains of *B. hyodysenteriae* have shown antimicrobial resistance to some of these medicines. Different studies have described *B. hyodysenteriae* high sensitivity to essential oils.

Type	Haemolytic	Pathogenic	Symptoms
<i>B. hyodysenteriae</i>	Strong	Yes	Mucus- bloody diarrhea
<i>B. hyodysenteriae</i>	Weak	?	?
<i>B. hampsonii</i>	Strong	Yes	Dysentery similar diarrhea
<i>B. suanatina</i>	Strong	Yes	Dysentery similar diarrhea
<i>B. pilosicoli</i>	Weak	Yes	Milder diarrhea, not-bloody
<i>B. innocens</i>	Weak	No	None
<i>B. intermedia</i>	Weak	No	None
<i>B. murdochii</i>	Weak	No	None

Table 1: *Brachyspira* types found in pig intestines (Adapted from Rhode and Wendt (2019))

## Use of DOSTO® Oregano to avoid *Brachyspira hyodysenteriae* reinfections

In collaboration with the University of Parma (Italy), was evaluated the effect of DOSTO® Oregano as a post-antibiotic treatment in weaned piglets with a bacteriologically proven clinical infection of *B. hyodysenteriae*.

### Experimental Setup

Groups:

- Control group:
  - Treated on day 1 with intramuscular Tiamulin
- Test group:
  - Treated on day 1 with intra muscular Tiamulin
  - Fed with 500 g DOSTO® Powder/ t from day 5

### Results

- From day 5 to 33 after the antibiotic treatment no piglets of the experimental group were tested positive, the re-infection was successfully stopped (Chart 1)
- Reduction of diarrhea symptoms (DS >2 \*) by about 50% (Chart 2)
- Significant difference in the daily weight gain ( $p < 0.05$ ) (Chart 3)

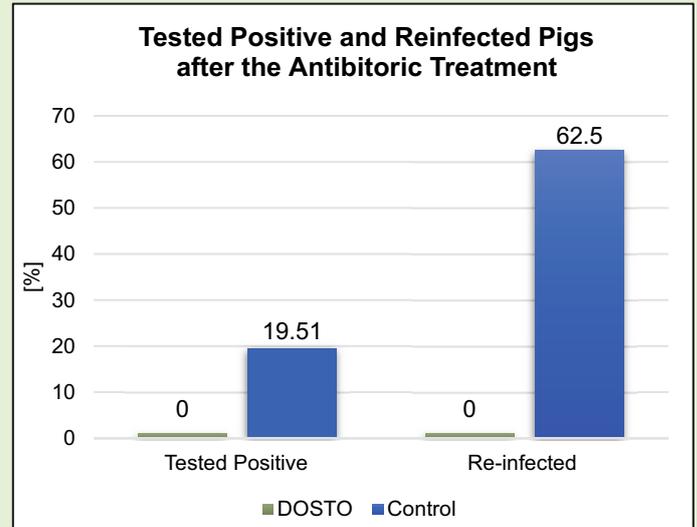


Chart 1: DOSTO® Oregano supports the antibiotic treatment and avoids re-infections

\* Diarrhea Score (DS) >2 = watery diarrhea with mucus or frankly mucous-hemorrhagic diarrhea

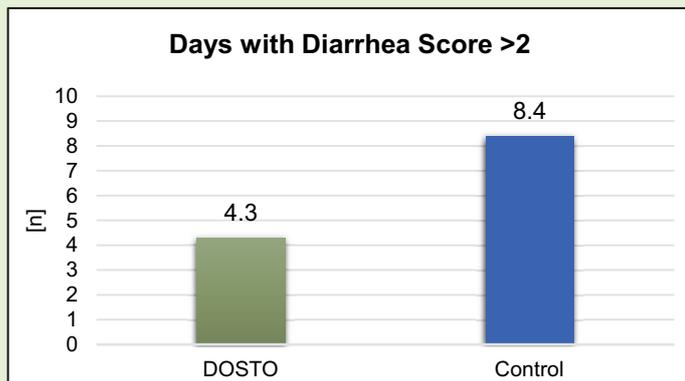


Chart 2: DOSTO® Oregano reduces the dysentery symptoms

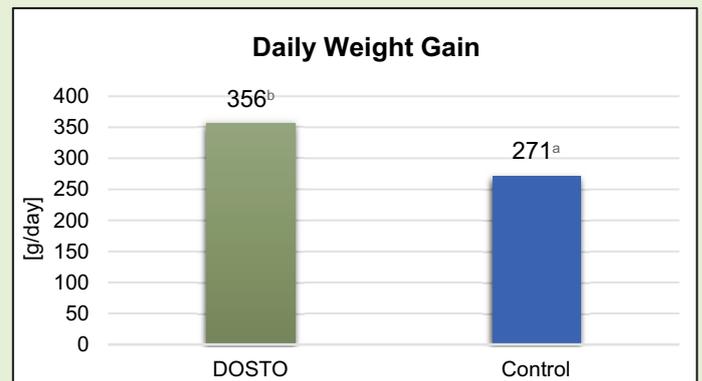


Chart 3: The weight gain improves significantly (<sup>a,b</sup> means in the same row with different superscripts differ ( $p < 0.05$ ))

## DOSTO® Oregano against selected *Brachyspira* spp. strains

The *in vitro* sensibility of selected *Brachyspira* spp. strains to DOSTO® Oregano oil and to three antibiotics was tested by measuring the minimal inhibitory concentration (MIC).

As shown in the chart 4, the studied *Brachyspira* strains are highly sensitive to the essential oil of DOSTO® Oregano. These results concurs with Rhode und Wendt (2019) and Rugna et al. (2015) which have described the low sensibility to antibiotics usually used to treat dysentery.

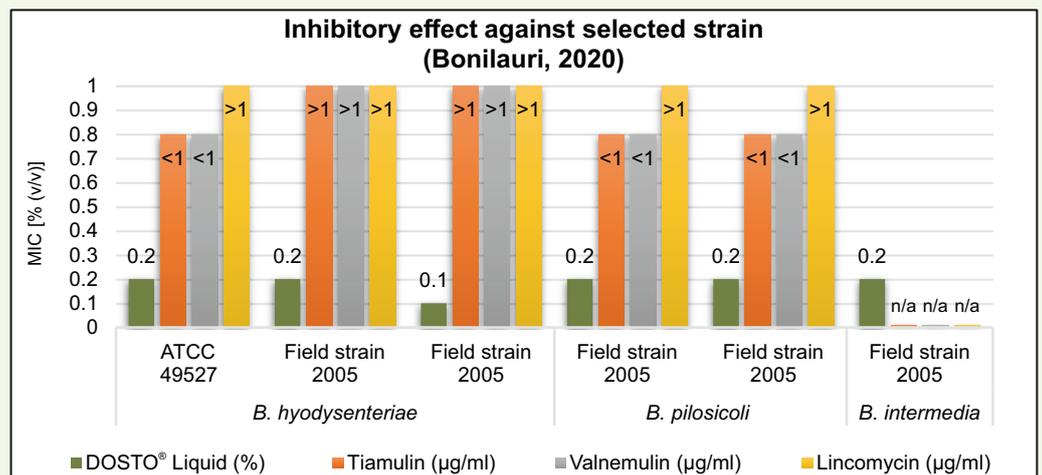


Chart 4: The studied *Brachyspira* strains were more sensitive to DOSTO® Oregano oil than to antibiotics



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# DOSTOFARM®

## *“We eat what we feed”*

Not all essential oils are the same. With DOSTO® Oregano oil you know that you are feeding 100% natural and standardized essential oil. Thanks to our exclusive oregano plant we can guarantee continuous and consistent results.

Do you have questions about **DOSTO® Oregano** and its use in swine? Contact us!

[mail@dostofarm.de](mailto:mail@dostofarm.de)

References are available on request

