



focus on **DOSTO**

Feed efficiency

An optimal digestion and absorption of feed nutrients is necessary for healthy and highly productive animals.

The positive effects of the essential oils on feed efficiency have been broadly documented in scientific and field trials. Most of the research has focused on the antibacterial effect fighting pathogenic bacteria and its direct effect on health and performance.

Only a few studies have gone a step forward, trying to understand how the essential oils interact with the intestinal tissue of the host. Specially interesting for nutritionists is how feed additives modulate nutrient digestibility and absorption.

The aim of this new issue of Focus on DOSTO® is to share with you our latest research and improve our understanding of interactions between the intestinal tissue and DOSTO® Oregano essential oil on monogastrics.

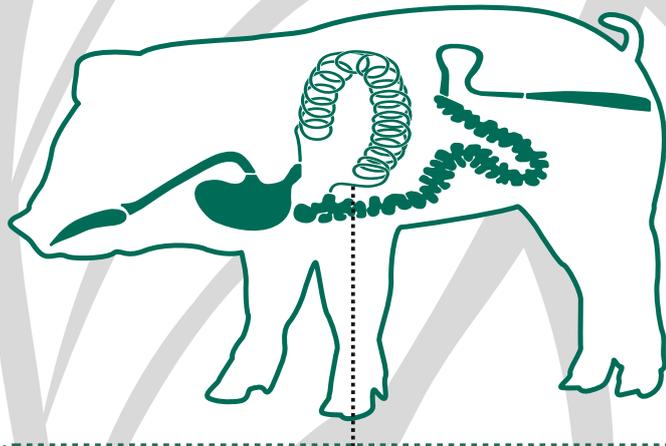
Enhancing Nutrient Digestibility with DOSTO® Oregano Essential Oil

Digestibility measures the degree of net absorption of nutrients in the digestive tract: carbohydrates, proteins, and lipids must be degraded to absorbable units by digestive enzymes and microflora.

There are different *in vivo* and *in vitro* methods to determine digestibility. A broadly used *in vivo* technique is the total fecal collection, which does not distinguish small intestinal digestion from large intestinal fermentation. A more accurate method is to measure the ileal digestibility.

The efficiency of DOSTO® Oregano oil* on performance and apparent ileal digestibility in weaned piglets has been recently studied at the Institute of Animal Nutrition at the Free University of Berlin (Zentek, 2017).

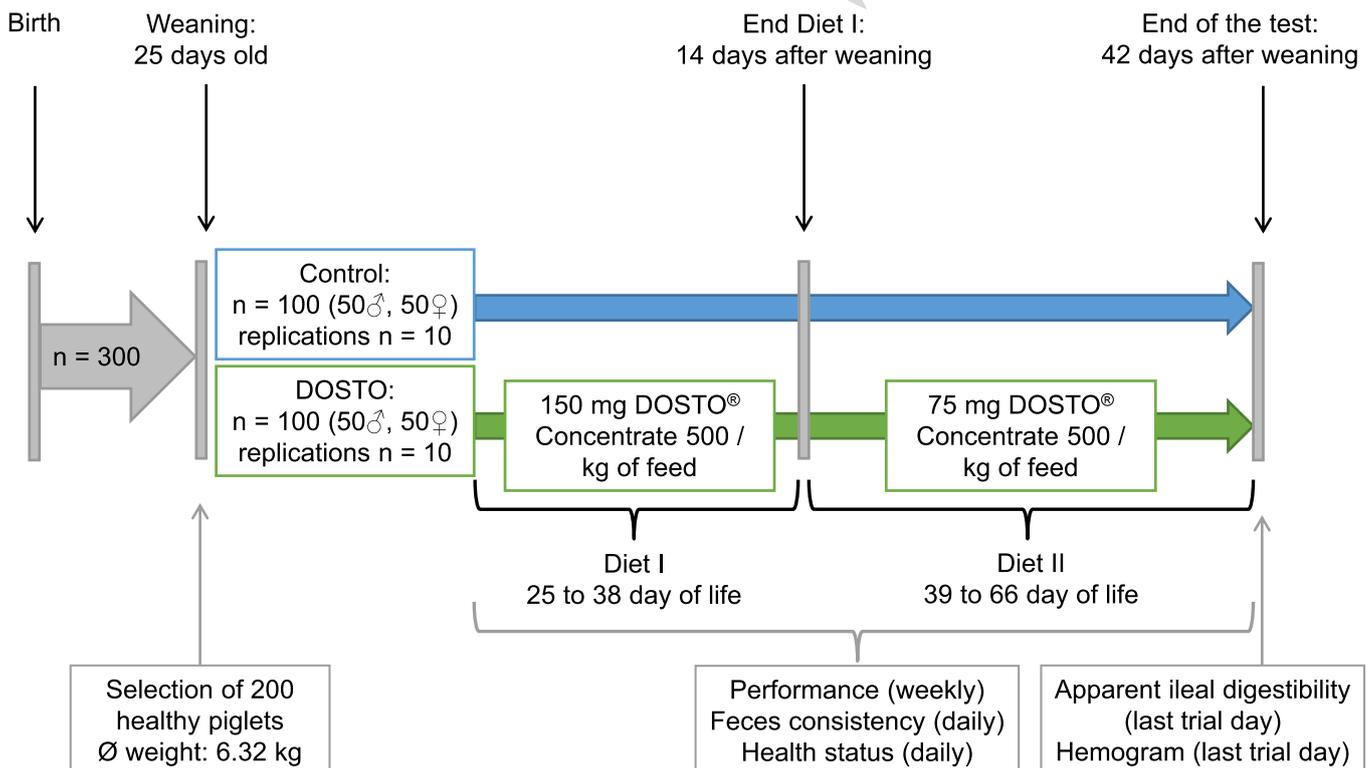
(*In this trial: DOSTO® Concentrate 500)



Ileal digestibility

Nutrients are digested in the small intestine. No absorption occurs in the large intestine, but the intestinal bacteria utilized some of the undigested amino acids, for their own growth. As a consequence digestibility can be accurately determined only by measuring how much of the input remains at the **ileum** (end of the small intestine).

Experimental design



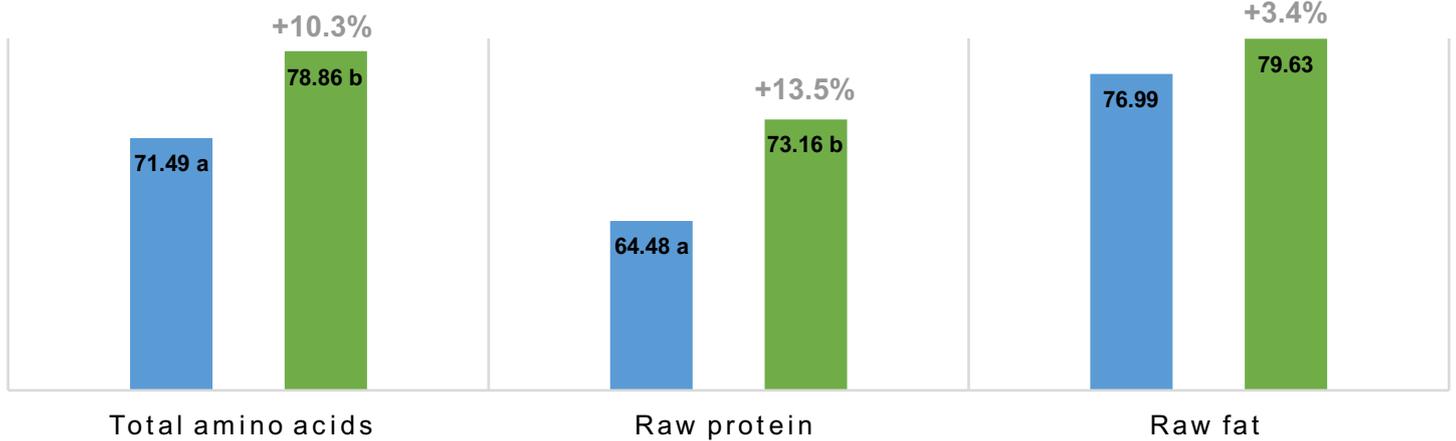
DOSTO® Oregano Oil improves Apparent Ileal Digestibility and Performance

Adding DOSTO® Oregano Oil to the piglets diet improves the zootechnical performance and the apparent ileal digestibility of raw protein and amino acids.

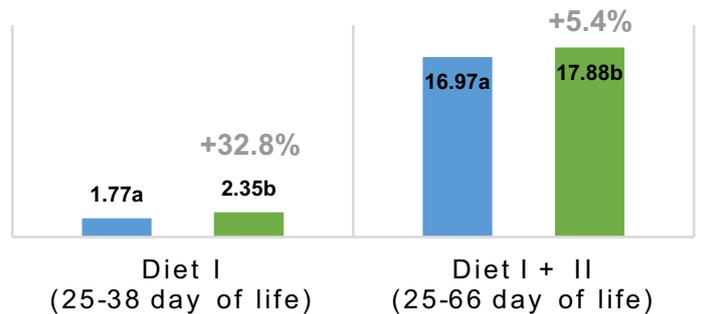
The essential oil DOSTO® Oregano has a positive effect on motion of small and large intestine and enzyme activity, and it will have a positive effect on performance due to their direct and indirect antioxidant properties.

Apparent Ileal Digestibility (%)

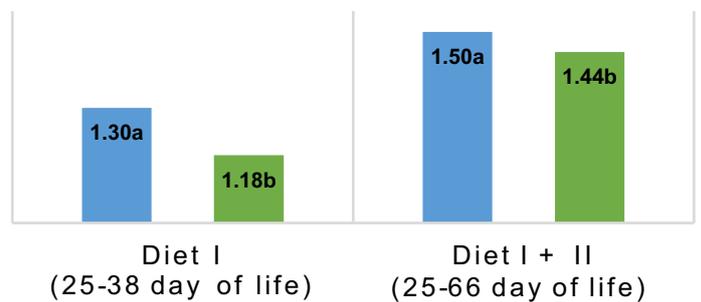
■ Control Group ■ DOSTO Group



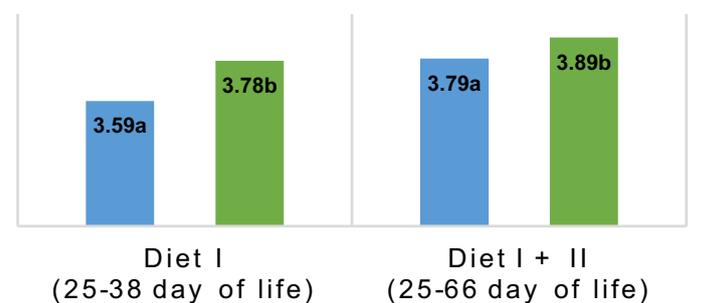
Weight Gain (Kg)



FCR



Feces consistency



DOSTO® Oregano significantly improved apparent ileal raw protein digestibility by +13.5% and apparent ileal digestibility of the total amino acids by +10.3%, compared to the control group. Although not statistically relevant, the apparent ileal digestibility of raw fat was improved by 3.4%.

The effect on the weight gain was especially strong in the first two weeks. At the end of the trial the live weight of the control group was 23.28kg and of the DOSTO® Oregano oil group 24.2kg.

Also the Feed Conversion Rate (FCR) was positively affected by the inclusion of DOSTO® Oregano Oil on the weaned piglets diet.

The feces consistency was visually evaluated as following:

1. Watery with color changes (DM* < 19%)
2. Watery without color changes (DM < 19%)
3. Soft (DM 20 - 19%)
4. Normal (DM 25 - 30%)
5. Firm (>35% DM)

Based on the total trial, a significantly better feces consistency could be proven.

*DM = Dry Matter

The Benefits of DOSTO® Oregano Oil

1. Better feed digestibility with increased post-weaning performance
2. Better feces consistency
3. Balanced intestinal microflora
4. Natural and standardized DOSTO® Oregano oil

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 any question about DOSTO® Oregano?
Contact us! mail@dostofarm.de

References available on request

DOSTO FARM®

