APPLICATION OF TERRAGUT

Terragut is EFSA approved as an feed additive, therefore all before mentioned technical results are proven in trials from both the supplier as well as in our Pig Farm. It can be fed to weaned piglets with a dosage of 250 gram per tonnes in the complete feed.

Terragut is available in concentrated powder form. As 250 gram per tonnes feed can be difficult / challenging to handle. Denkavit Ingredients also offers a more diluted product: Terragut ED (Easy Dosage). In this dilution the lanthanides are mixed in such a way 2500 g / tonnes of feed can be added to the mixer. Adding the product in the mixer is easier and homogeneity is more secured.





The weaning period is (still) one of the biggest challenges on a pig farm. A new environment and change in feed brings a lot of stress for a piglet. At the same time, the gut of the young piglet is still developing. How to support the piglet and master the dip? Terragut is a new, unique additive containing natural minerals which have a proven effect on the gut microbiota and gut health of a piglet. Terragut supports the absorption of nutrients, and contributes to a better faecal consistency, feed conversion





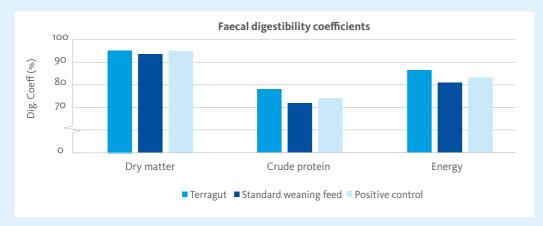
and growth.

MASTER THE WEANING DIP WITH TERRAGUT

Terragut is an innovative feed additive for weaned piglets to support them after weaning. Terragut contributes to the growth of beneficial bacteria in the gut and helps inhibiting the growth of pathogenic bacteria. As a result, gut ecology and gut health are maintained. Terragut is based on two minerals from the group lanthanides: Cerium and lanthanum. The additive is EFSA approved.



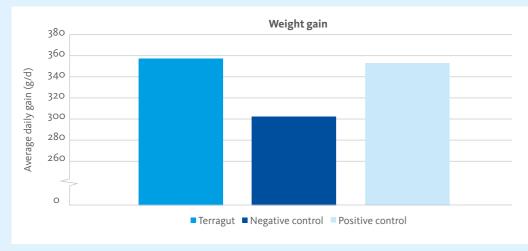
TERRAGUT SUPPORTS DIGESTIBILITY AND HAS A POTENT ANTIMICROBIAL EFFECT



GRAPH 1:

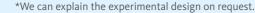
Effect of weaning feed with Terragut on digestibility of nutrients.

TERRAGUT HAS A POSITIVE EFFECT ON ANIMAL PERFORMANCE, DUE TO BETTER ABSORPTION OF NUTRIENTS WHICH LEAD TO A BETTER FEED CONVERSION AND GROWTH



GRAPH 2:

Effect of weaning feed with Terragut on growth of piglets measured in average daily weight gain. The graph shows a higher growth in the group who was a fed weaning diet with Terragut.





"Within the complete portfolio of Feed Ingredients Specialties,
Terragut is part of the
Supported Gut integrity
& Ecology category."

TERRAGUT IS A VALUE ADDING AND A SUSTAINABLE FEED INGREDIENT

MAINTAINING GUT HEALTH AND ECOLOGY THROUGH THE WEANING DIP

Within the complete portfolio of Feed Ingredients Specialties, Terragut is part of the Supported Gut integrity & Ecology category. Cerium and lanthanum simultaneously contributes to the growth of beneficial bacteria and helps inhibiting the growth of pathogenic bacteria. Lanthanum and cerium activate methyldehydrogenase (MDH) enzymes, which catalyse the metabolism of substrates for C1 compound eating bacteria. These bacteria not only have a positive effect on the gut ecology, also helps lowering methane emissions. In addition to this, both cerium and lanthanum have a potent antimicrobial effect, showing a similar inhibition zone as copper does.

POSITIVE EFFECTS ON ANIMAL PERFORMANCE

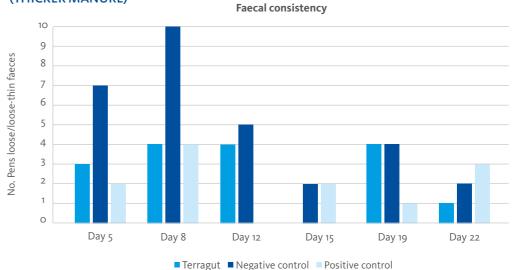
These activities of the lanthanides translate in better results of your animals. Adding this additive to the feed of weaned piglets results in better animal performance. Terragut contributed to better nutrient absorption compared to the positive control group (see graph 1). Terragut also contributed to a rise in average daily gain while feed intake is not affected, thus contributing to a better feed conversion ratio (see graph 2). Besides this, correct faecal consistency is maintained and the number of pens with loose / loose-thin faeces decreased. (see graph 3). The animal caretaker is able to notice visible improvements in the pens.

CONTRIBUTING TO SUSTAINABLE FARMING

The additive has several sustainable aspects, it contributes to reduced methane emissions and a better feed conversion ratio. Next to that, these two lanthanides are derived from the renewable energy sector and have a very low footprint.



PIGLETS FED WITH FEED ENRICHED WITH TERRAGUT HAVE A BETTER FAECAL CONSISTENCY (THICKER MANURE)



GRAPH 3:

Effect of weaning feed with Terragut on number of pens with loose / loose-thin faeces.