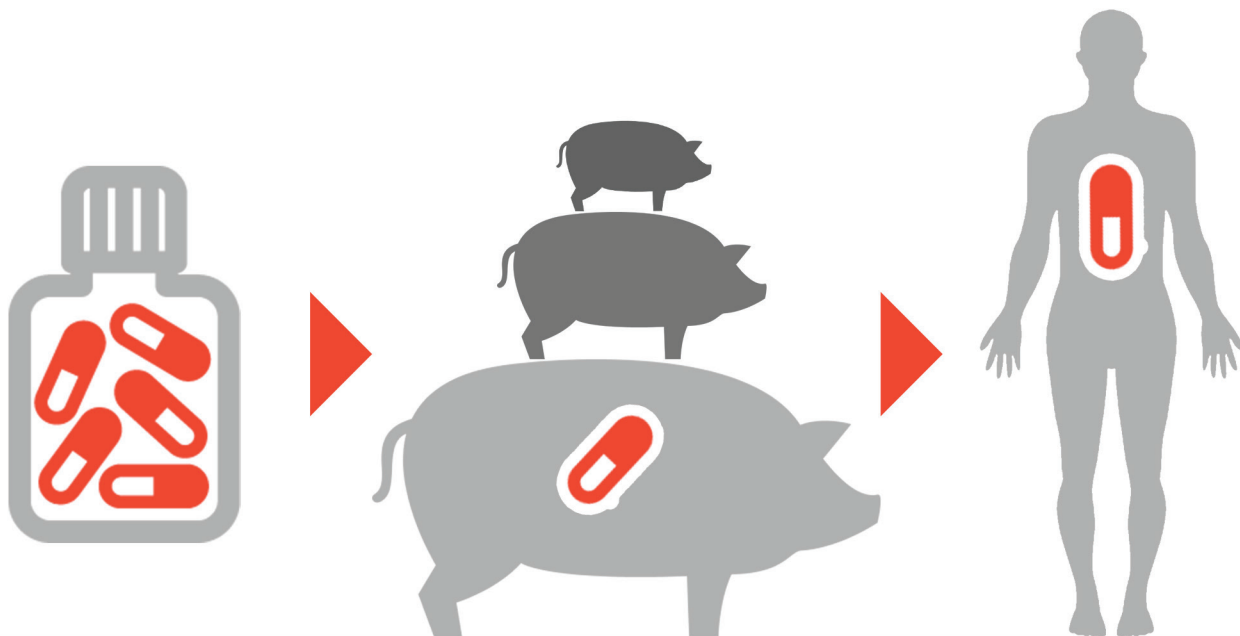


# EXECUTIVE SUMMARY FOR SOLDIG

( P A T E N T   P E N D I N G )



High concentrations of heavy metals such as zinc oxide in pig feed (up to 3000 ppm) has an adverse effect on the environment. In addition, the use of antibiotics has increased the risk of resistant bacteria.

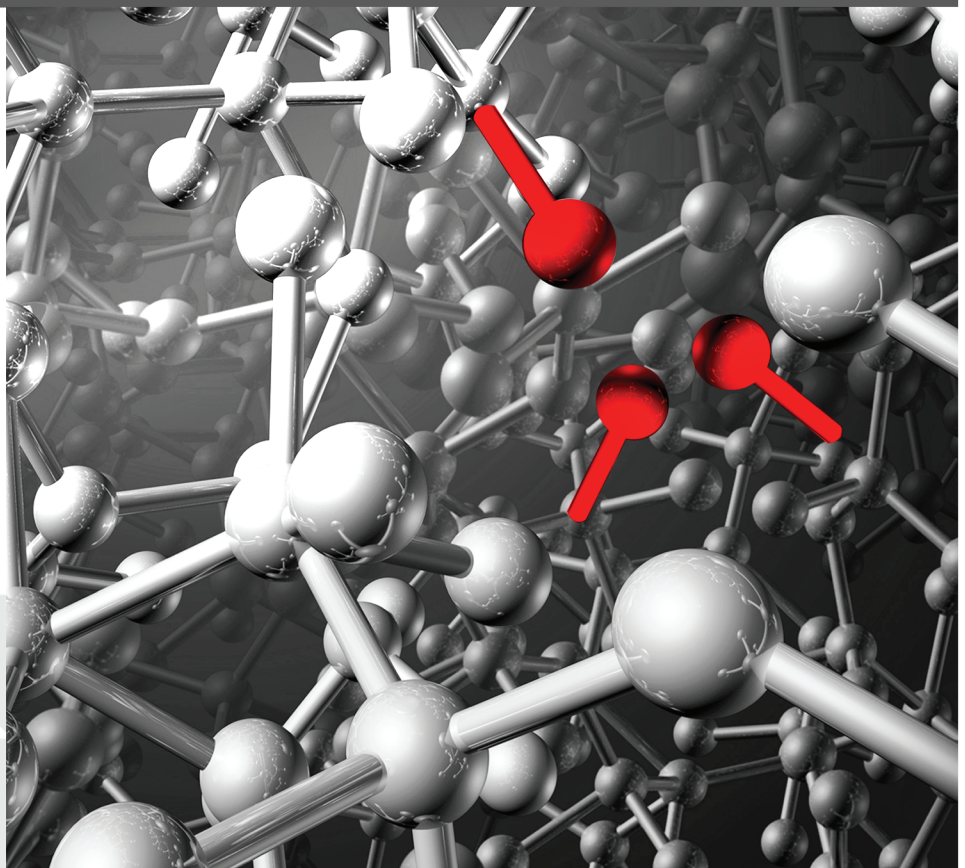


Despite these issues, both agents continue to be used in feed because they benefit the livestock in terms of health (and therefore reduce animal suffering), increase growth rates and decrease feed conversion. In particular, feed conversion is a critical measurement as feed is costly and waste is unethical.

# OUR SOLUTION

**Soldig is a chemical compound that consists exclusively of trace elements. It has been designed by Solid Chemicals in a research project which started in 2010. Solid Chemicals has been founded in 2001 and is operating in this field since then.**

It is unique in that the surface of the molecule is manipulated, which facilitates the bioactivity of known and popular trace elements such as zinc and copper. The effect of 50 ppm of ZnO in Soldig is comparable to the effect of 3000 ppm of common ZnO. While Solid Chemicals has its roots in research on nanomaterials, nanotechnology is not applied in Soldig.



# THE METHOD



**The research method of Solid Chemicals is marked by a high level of communication between the agronomists of feed mills and our inter-disciplinary research staff.**

None of our staff works only for Solid Chemicals but they all have a **background in different areas** like research or management. This gives a unique opportunity for inter-disciplinary discussions.

**In-vitro** and **in-vivo** testing serve as a feedback loop to the inter-disciplinary discussions.

Our **solutions** are tested extensively in cooperation with local farmers where we operate modern and precise feeding computers.

Over time, our **feedback loops** ensure that results of the *in-vitro* models rarely contradict results from the statistical models on data from the *in-vivo* trials.

This reflects the learning process of our interdisciplinary team.

The process described above was the basis for the successful development of Soldig.

# EMPIRICAL EVIDENCE

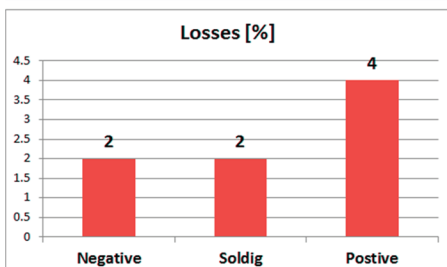
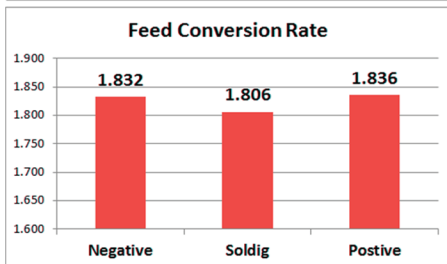
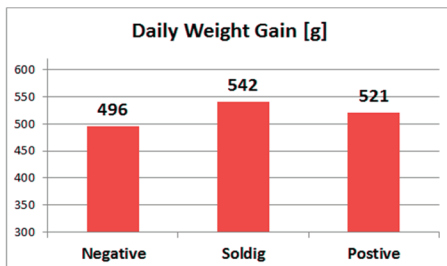
## SOME RECENT TRIALS WITH SOLDIG

Positiv: 3000 ppm Zinc

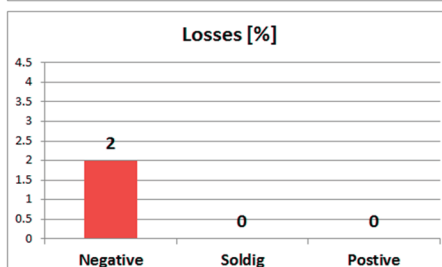
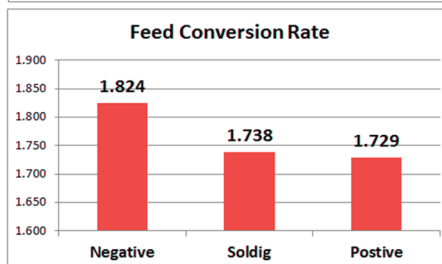
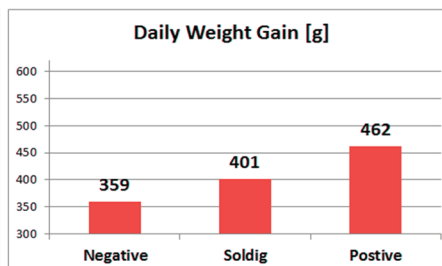
Negativ: Only compound feed

Trial: Soldig with 50 ppm Zn

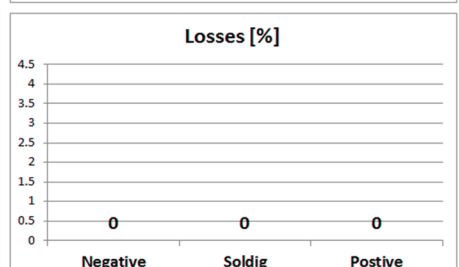
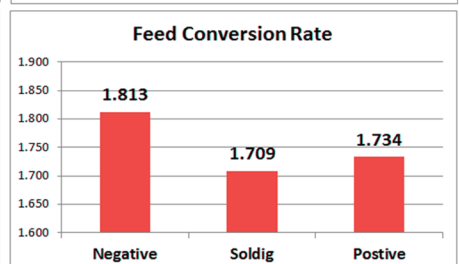
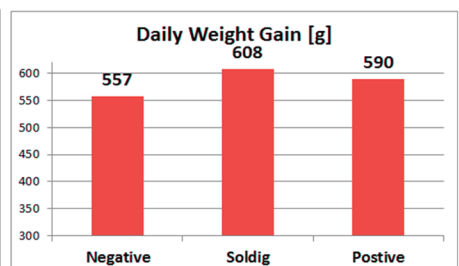
TRIAL 01



TRIAL 02



TRIAL 03



Basic feed for each group is identical. 50 animals per group and per trial from 10KG to 28KG.



**Conclusion** Soldig has proven to be a very potent additive to the feed with positive effects on health status and performance of the animals, reducing at the same time hazards to environment and human health. **Our farmer was able to reduce antibiotic expenses from CHF 10'000 to CHF 2'500 per year, since he began using Soldig.**