

Superior effect of Formi® on pig performance - A holo-analysis



Takeaways:

- Numerous publications have demonstrated that dietary acidification of pig diets results in performance improvements
- Holo-analysis is an analytical technique that takes advantage of data from all available trials and provides a holistic and realistic meaning to the data
- Formi[®], a proprietary double salt of formic acid, provides superior performance results in pigs, holo-analysis showed. In a 59 trial holo-analysis, Formi[®] improved feed intake, live weight gain, and feed conversion ratio (FCR) by +3.52%, +8.67%, and -4.20%, respectively.
- Pigs of all ages can benefit from dietary Formi[®], and especially piglets, holo-analysis shows

Numerous research publications have shown dietary acidifiers to be effective in pigs

Numerous publications have demonstrated the effectiveness of using dietary acidifiers in pigs of all ages. In a recent review¹, the authors reported that the positive effects of organic acids in pigs could be attributed to diverse elements, including antimicrobial activity, lowering pH in the gastrointestinal tract, slowing feed transit time and maximizing feed digestion and nutrient absorption, and inducing enzyme secretion and activity. Organic acid mixtures, which improve growth performance, can also modulate intestinal bacterial populations and improve gut health.

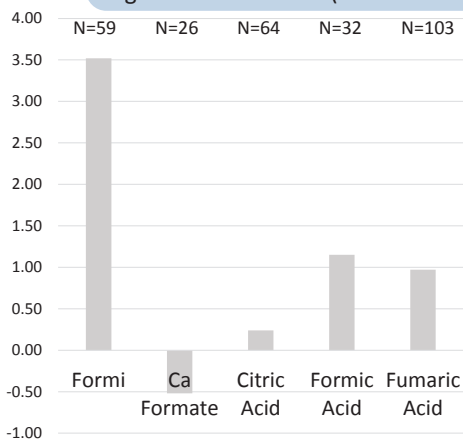
Holo-analysis, a holistic means to draw realistic conclusions from many research reports

Holo-analysis, unlike the meta-analysis statistical technique, takes advantage of all data available, not just data from similarly designed trials. Prof. Gordon Rosen has performed several holo-analyses on research data with feed additives. Of interest, Gordon Rosen² conducted a holo-analysis on research that studied the effect of organic acids, their salts and blends on feed intake, live weight gain and feed conversion ratio in pigs. This analysis used 658 controlled trials that evaluated the effect of 158 different acid products in 37,924 pigs. The analysis clearly showed that using dietary acids improves pig performance, and that the effect is dose dependent.

Formi[®], a proprietary organic acid product, results in superior pig performance

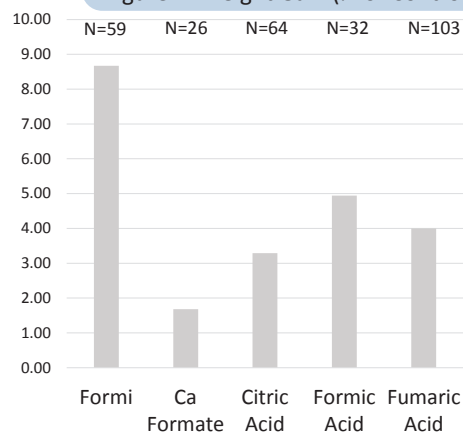
Holo-analysis of dietary acids showed that pigs benefit greatly from the use of Formi[®], calcium formate, citric acid, formic acid or fumaric acid, as shown by improvements in feed intake, live weight gain, and feed conversion ratio (Figure 1, 2 & 3)². It is noteworthy that Formi[®] provided superior results, compared to the other three acids and acid salts. Over 59 peer-reviewed trials, Formi[®] improved feed intake, live weight gain, and feed conversion ratio (FCR) by +3.52%, +8.67%, and -4.20%, respectively.

Figure 1: Feed Intake (% of Control)



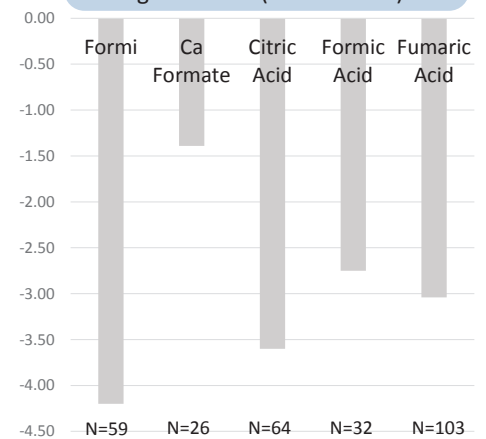
N=Number of trials. Rosen, 2008.

Figure 2: Weight Gain (% of Control)



N=Number of trials. Rosen, 2008.

Figure 3: FCR (% of Control)



N=Number of trials. Rosen, 2008.

When the data were analyzed as a function of pig age and acid inclusion rate, it was evident that pigs of all ages benefited from the dietary use of Formi® (Figure 4, 5 & 6). Piglets, in particular, appear to benefit the most from dietary Formi®.

Figure 4: Feed Intake (% of Control) at different Formi® dietary inclusion rate and pig growth stages

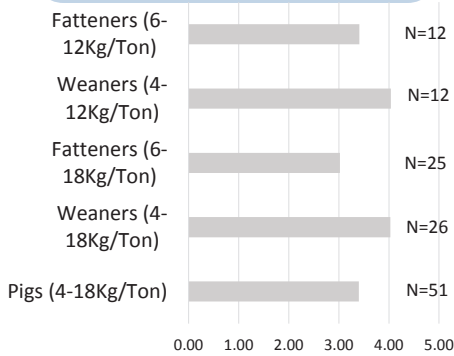


Figure 5: Weight Gain (% of Control) at different Formi® dietary inclusion rate and pig growth stages

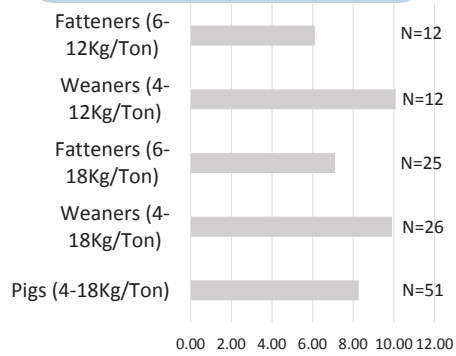
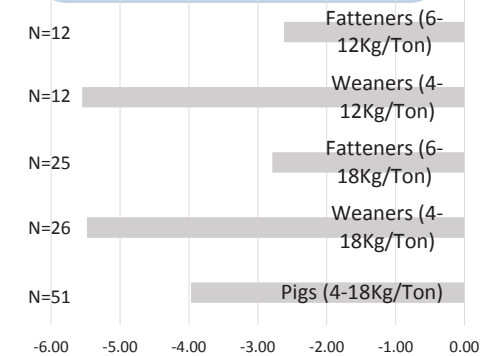


Figure 6: FCR (% of Control) at different Formi® dietary inclusion rates and pig growth stages



Pigs (overall); Weaners (<30Kg); Fatteners (>30Kg). N=Number of trials. Rosen, 2009.

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References

¹D. H. Nguyen, W. J. Seok, I. H Kim, 2020. Organic acids mixture as a dietary additive for pigs – A review. *Animals* 2020, 10, 952; doi:10.3390/ani10060952

²Rosen holo-analyses data adapted from C. Lückstädt and S. Mellor, 2010. *Krafftutter*, Vol.93 No. ½, pp. 18-21.

³Formi® = potassium diformate.



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