IntelliBond®
a Selko product

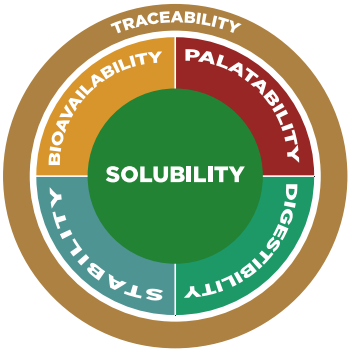
SMART MINERALS. SMART NUTRITION.

THE ABILITIES OF INTELLIBOND TRACE MINERALS

DIGESTIBILITY

Trace Minerals and Rumen Microbe Function

- Weak ionic bonds from sulfates cause dissociation of the metal when exposed to moisture (rumen fluid) and release free metal ions.
- The free metals have the ability to negatively affect microbe function.
- It is not the sulfate portion that is harmful to rumen microbes, it's the free metal ions like copper and zinc that are highly oxidative and antimicrobial – which is why copper sulfate and zinc sulfate are used as antimicrobial agents in applications such as footbaths.



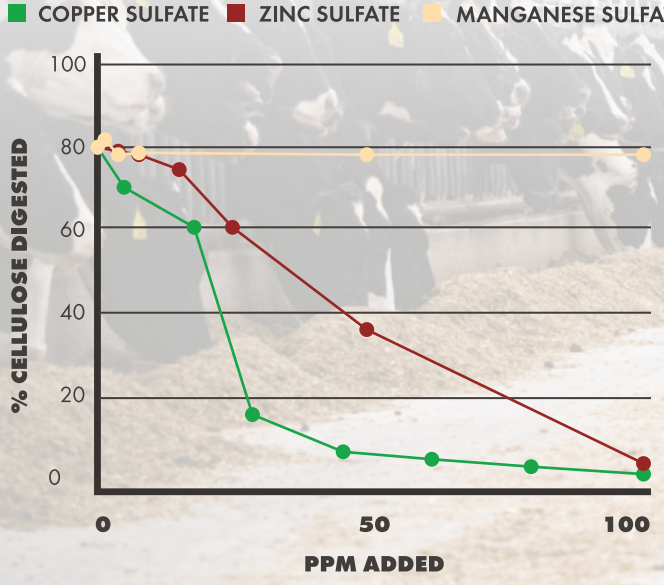
MICROBIAL REQUIREMENTS

Sala (1957) found that when rumen fluid was included in an *in vitro* system, any additional zinc actually decreased cellulose digestion. This indicates that zinc content of the basal diet is likely enough to supply rumen microbes with the zinc needed to maximize cellulose digestion.

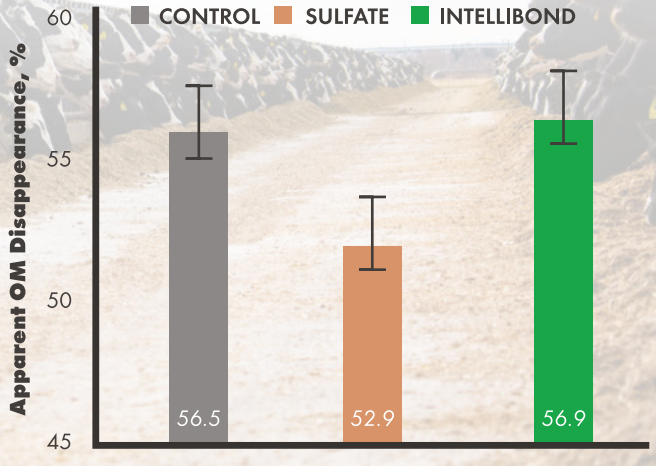
SULFATES REDUCE RUMINAL DIGESTION

Copper, zinc, and manganese sulfate reduced apparent organic matter disappearance (6-7%) compared to no added trace minerals and IntelliBond copper, zinc, and manganese in a 48h *in vitro* fermentation system (Micronutrients Trial#2019R131CACZM, 2019).

Effect of Trace Minerals on Cellulose Digestion in Rumen Fluid



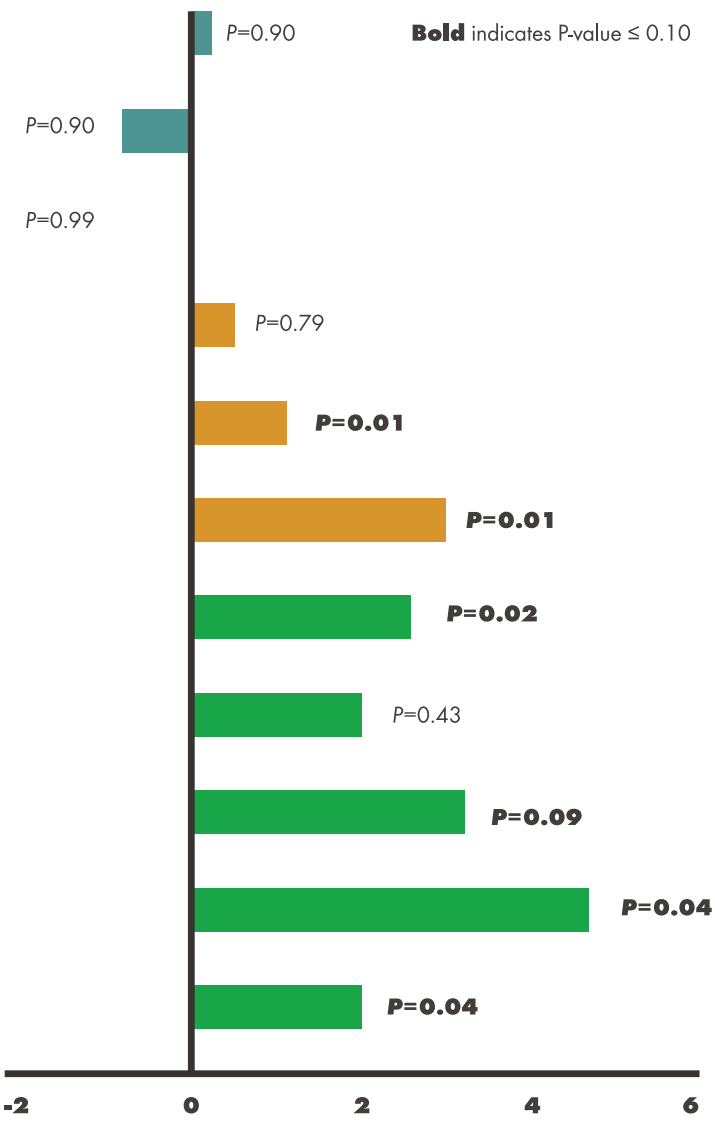
Apparent Organic Matter Disappearance (24 observations/trt)



TRACE MINERAL SOURCE AFFECTS FIBER DIGESTIBILITY

Recent studies have shown that ruminants fed copper sulfate, zinc sulfate, and manganese sulfate have lower NDF digestibility compared to cows fed a ration containing IntelliBond trace minerals at iso-levels.

TRACE MINERAL SOURCE AFFECTS FIBER DIGESTIBILITY



Genther and Hansen. 2015. J. Dairy Sci. 98:566–573.

Genther and Hansen. 2015. J. Dairy Sci. 98:566–573.

Micronutrients Trial #2017D103CACZM.

Micronutrients Trial #2017D123USCZM.

Miller et al. 2019. J. Dairy Sci. 102 (Suppl. 1):280.

Miller et al. 2019. J. Dairy Sci. 102 (Suppl. 1):280.

Faulkner and Weiss. 2017. J. Dairy. Sci. 100:5358-5367.

VanValin et al. 2018. J. Anim. Sci. 96:5336-5344.

Caldera et al. 2019. J. Anim. Sci. 97:1852-1864.

Micronutrients Trial #2017R120USCZM.

Guimaraes et al. 2019. J. Anim. Sci. ASAS Abstract #414.

Westside Enterprises is the sole distributor
of the IntelliBond Product Range in Southern Africa.

T +27 21 686 8265
W www.westside.co.za
E info@westside.co.za

Westside