



# Responsible Minerals

## Higher performance for lower environmental impact

- The nutritional objective of TNGB's Responsible Minerals strategy is to ensure animal requirements are met to optimise the health, performance and profitability of your herd.
- By using the most available form of mineral sources to maximise efficiency, animals perform better, and you can feed less, helping reduce costs.
- Selko® IntelliBond® hydroxy trace minerals are highly bioavailable and have been developed as a cost-effective alternative to conventional trace mineral sources.

### Responsible Minerals for better performance

A Responsible Minerals strategy based on Selko IntelliBond will help ensure your cows perform as well as possible by keeping them healthy and productive. When compared to copper sulphate and other conventional sources of trace mineral Selko IntelliBond yields a significant improvement in ration digestibility. Conventional copper sulphate is excellent at killing microbes, which is why it is used as an antimicrobial in footbath solutions. In the rumen it has a similar effect, very effectively killing off rumen microbes and reducing ration utilisation.

### Reduced environmental impact

Not only will a Responsible Minerals strategy based on Selko IntelliBond help ensure your cows perform as well as possible by keeping them healthy and productive, it will also help reduce the environmental impact of your herd.

The superior bioavailability of IntelliBond means you can feed considerably lower levels to supply the same amount of effective trace mineral to your cows. By doing so you will reduce waste and minimise the environmental impact of excreted minerals. Independent trials and studies have shown that IntelliBond hydroxy forms of copper and zinc are nearly twice as bioavailable as inorganic zinc and copper.

## Improved yields

Research has confirmed the benefits of improved diet digestibility. In the study outlined here cows fed Selko IntelliBond in place of other conventional sources reached peak milk yield sooner and produced 3.5 litres more milk at peak lactation (Figure 1).

Producing more milk from the same feed input means better income over feed costs. It also means that you are cutting emissions reducing the carbon per kilo of fat protein corrected milk produced and driving down overall carbon footprint.

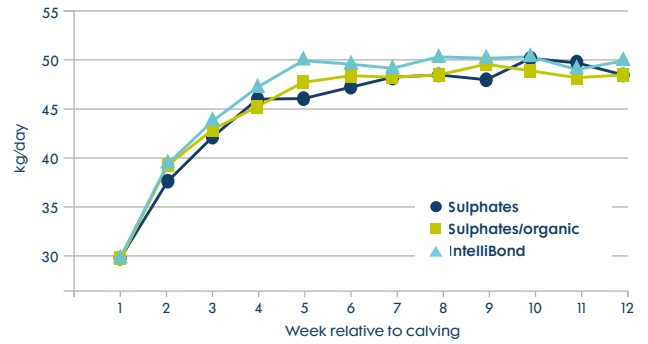


Figure 1: Milk yield of cows supplemented with Selko IntelliBond, sulphates, or a mixture of sulphates and organic trace minerals.

## Reduced carbon footprint

Independent assessment of trial data concluded that replacing sulphate trace minerals with Selko IntelliBond trace minerals in lactating cow diets could result in a reduction in carbon footprint of 1.5-2%, making IntelliBond the world's first trace mineral source with an official endorsement for the reduction of carbon footprint per kilo of energy corrected milk.

## The LCA for the production of Selko IntelliBond

These values are specific to the Selko IntelliBond manufacturing process and will be of value to feed compounders that are working to reduce their products' carbon footprints. Having these figures in hand allows nutritionists and manufacturers to effectively evaluate the individual CO<sub>2</sub>e impact of various ingredients being added to premixes and farm minerals, with the objective of lowering the blend's total CO<sub>2</sub>e, while maintaining its nutritional requirements.

Selko product	CO <sub>2</sub> e/Mt product	CO <sub>2</sub> e/kg metal	% Metal
Selko IntelliBond C	2.51 Mt	4.66 kg	54%
Selko IntelliBond Z	1.93 Mt	3.51 kg	56%
Selko IntelliBond M	2.65 Mt	6.02 kg	44%

Figure 2: CO<sub>2</sub> equivalents per metric tonne of Selko IntelliBond produced and per kg of metal for Selko IntelliBond Copper, Selko IntelliBond Zinc and Selko IntelliBond Manganese.

**A Responsible Minerals strategy based on Selko IntelliBond hydroxy minerals can help unlock the potential of your cows while reducing environmental impact.**



**BEYOND NET ZERO**

**trouw nutrition**  
a Nutreco company