

BUILDING ROBUST ANIMALS STARTS WITH MINERAL NUTRITION



In modern animal production, performance alone is no longer enough. Animals are increasingly expected to remain productive under pressure: heat stress, disease challenges, reduced antibiotic use, environmental demands and fluctuating production conditions.

In this reality, robustness becomes essential. A robust animal is not simply an animal that grows or produces well under ideal conditions, but one that can maintain function, recover efficiently and continue performing when challenged.

CLOSING THE MINERAL UTILIZATION GAP

From formulated minerals to functional minerals



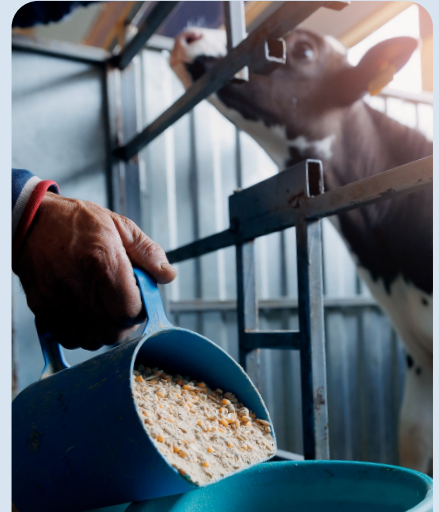
MINERALS ON PAPER

Inclusion level in diet



POTENTIAL LOSSES

- Instability
- Interaction
- Poor absorption



MINERALS USED BY THE ANIMAL

Biological availability and functional effect

Trace minerals play a much larger role in this process than their small inclusion levels may suggest. Selenium, zinc, copper and manganese are involved in key biological functions such as antioxidant defense, immune response, tissue integrity, recovery and overall health. Yet the value of trace minerals is not determined by inclusion level alone. What truly matters is the source, stability and biological availability of the mineral, in other words, how much of what is formulated is actually available and

effectively used by the animal. This is where the choice of mineral source becomes critical. When minerals are unstable, poorly absorbed or interact too early in the feed or digestive tract, part of their nutritional value is lost. This creates a gap between what is present in the diet and what the animal can truly utilize. Building robust animals starts with closing this gap, by choosing mineral sources designed to support the animal's physiology where it matters most.



Excential Selenium 4000 supports resilience from within by helping animals manage oxidative stress, one of the major biological challenges affecting health, recovery and performance. It provides all selenium in the form of L-selenomethionine, a highly bioavailable organic selenium form that can be incorporated into body proteins. This creates an internal selenium reserve that can be mobilized during periods of increased demand, such as heat stress, disease pressure or high metabolic activity. As a result, animals are better equipped to protect their cells, recover more efficiently and maintain more consistent performance under challenging conditions.

In practice, this translates into measurable results.

In broiler systems, the use of Excential Selenium 4000 has been associated with improvements in performance and efficiency, delivering return on investment values above 10:1 in controlled studies

Under challenging conditions such as high stocking density, benefits have also been observed in flock uniformity and meat quality, confirming its relevance in commercial production environments.

Where selenium helps protect the animal at cellular level, Excential SMART strengthens the structural and functional integrity of the animal. Zinc, copper and manganese are essential for tissue quality, skin condition, gut integrity, connective tissue development and overall physiological strength. Thanks to its hydroxy trace mineral structure, Excential SMART remains highly stable during feed processing and storage, helping to reduce unwanted interactions before the minerals reach the animal. Once in the digestive tract, minerals are released in a controlled way,

supporting efficient absorption and reliable mineral supply.

Practical data show that this improved delivery can translate into better feed efficiency and more consistent fertility outcomes, reinforcing the role of mineral form in overall animal robustness. When hydroxy minerals were introduced on a commercial dairy farm, fertility steadily improved.

More cows conceived at first insemination, with 17.2% less non-pregnant animals at day 110 of lactation, while the inter calving period reduced with 16.8 days and the animals needing more than 3 inseminations reduced with 13%. Overall this resulted in an ROI of 1:14.6

These results clearly illustrate how improving mineral delivery can translate into more reliable reproductive performance in practice.

Together, Excential Selenium 4000 and Excential SMART offer a complementary strategy for animal robustness. Rather than simply supplying minerals, these solutions are designed to improve how minerals are delivered, absorbed and used by the animal. For producers, this means fewer performance losses during challenging periods, more consistent results and better value from every kilogram of feed. It also supports more efficient and sustainable production by helping animals cope better with stress and reducing vulnerability to disruptions.

Because robust animals are not built by chance, they are built through precise nutritional choices, starting with mineral solutions that truly work inside the animal.



Mineral effectiveness depends on source



L-SeMet builds selenium reserves



Hydroxy trace minerals improve bioavailability



Robust animals are founded with optimizing mineral nutrition

