



Feed the Best **For a Lifetime**

Birth, Growth,
Production,
Reproduction





Lifetime Performance[®]

To truly thrive, dairy cattle must receive optimum trace mineral nutrition throughout their productive life stages.

IMMUNITY

Milk production, reproductive performance is influenced by a strong immune system. Optimal nutrition can result in greater survival. Research has shown that optimal nutrition has been shown to raise the quality of colostrum, which aids in passive immunity.

REPRODUCTION

Trace mineral status before and after calving directly affects reproduction.

5.5% ↑

Pregnancy Rate

13 ↓

Fewer Days Open

Beginning trace mineral supplementation in the dry and prepartum periods and continuing through lactation is critical for improving health. Research results by Rabiee, Lean, Stevenson and Socha show that feeding Zinpro[®] Performance Minerals[®] to dry and lactating cows can help aid in an earlier return to ovarian function, which can lead to improved pregnancy rates and fewer days to conception².

MILK PRODUCTION

Healthy cows produce more milk per lactation. Studies by Rabiee, Lean, Stevenson, Socha and Gomez showed improved milk production along with higher yields of fat and protein. This research demonstrates 274 kg more milk per lactation in mature cows, while heifers in the rearing phase produced 200 kg more milk in their first lactation^{2,4}.

MORE MILK

274 kg/Lactation for Cows
200 kg/Lactation for Heifers

LAMENESS MANAGEMENT

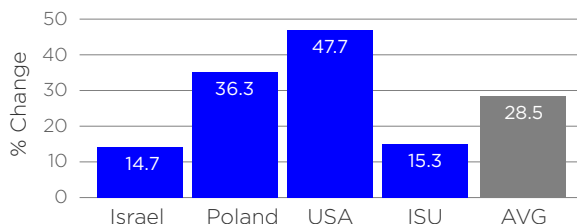
Optimal nutrition is necessary for improved claw integrity during a cow's productive life. Research shows that prevention of nutritional deficiencies allows for fewer non-infectious claw lesions⁵.

34% ↓

¹ Kincaid and Socha, 2004. Prof. Anim. Sci. 20:66; Kinal *et al.*, 2005. J. Food Ag. and Environ. 3:168. ² Rabiee, A. R., I. J. Lean, M. A. Stevenson, and M. T. Socha. 2010. Effects of feeding organic trace minerals on the reproductive performance of Holstein cows. J. Dairy Sci. 93:1553. ³ Nayeri, A., N. C. Upah, E. Sucu, M. V. Sanz-Fernandez, J. M. DeFrain, P. J. Gordon and L. H. Baumgard. 2014. Effect of the ratio of zinc amino acid complex to zinc sulfate on the performance of Holstein cows during the rearing period. J. Dairy Sci. 98:4487. ⁴ Nocek *et al.*, 2000. Digital characteristics in commercial dairy herds fed metal-specific amino acid complexes, J. Dairy Sci. 83:1553.

function and hoof integrity are greatly
 system. Less-than-optimal trace mineral
 susceptibility to deficiencies. Proper
 ise immunoglobulin (IgG) levels in maternal
 e immunity for the newborn calf¹.

Increase in IgG Concentration



28% ↑

Birth

e stages of an
 me, optimum
 nutrition has a
 impact



Growth ▶

ction

White Line
 Separation

11% ↓

Sole
 Ulcers

HOOF HEALTH MANAGEMENT

When a heifer contracts digital dermatitis (DD) before calving, she produces less milk and suffers decreased reproductive performance⁴. In a study on digital dermatitis and lactation performance in cows, Gomez *et al.*, found that heifers having incidences of DD showed a significant decrease in first lactation performance.

The study also showed that heifers that were fed the DD formula as part of a balanced nutrition program showed improvements in hoof health. One of the improvements was a decrease in DD prevalence of more than 60%.

60% ↓

Digital Dermatitis

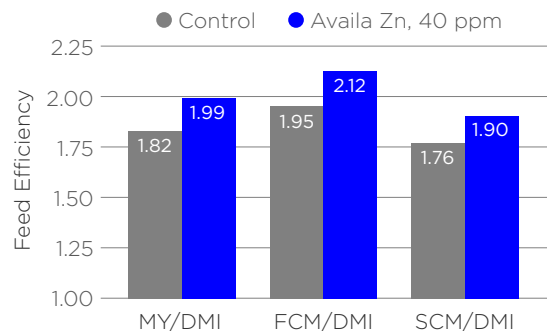
Heifer Type (Pre-Calving)	First Lactation Milk Loss (305 Days in Milk)
One DD Event	199 kg
Multiple DD Events	335 kg

FEED EFFICIENCY

Feeding zinc at a 40 ppm level has been shown through research to result in cows consuming less feed per pound of milk produced³.

Feeding 40 ppm Zinpro® Availa® Zn Improves Feed Efficiency

9% ↑





RESEARCH-PROVEN ZINPRO® PERFORMANCE MINERALS®

At Zinpro Corporation, our investment in data and the scientific research of our products has led us to produce more than 300 peer-reviewed research publications. Zinpro provides customers with quality information to better explain how our products deliver a positive animal response and improved return on investment.

Trace minerals are essential during the animal's full productive life, from birth, to growth through production and reproduction. The table below summarizes the relationship between some of the different productive stages and the essential role that minerals play.

Birth	Growth	Production	Reproduction
Intestinal Epithelium Zn, Mn, Cu	Appetite Zn, Co	Milk Production Zn, Co	Bone Development Zn, Mn, Cu
Immune Function Zn, Mn, Cu, I	Muscle Development Zn	Hoof Health Zn, Mn, Cu, I	Fertility Zn, Mn, Cu
	Hoof Health Zn, Mn, Cu, I	Feed Efficiency Zn, Co	Fetal Development Zn, Mn, Cu
			Colostrum Quality Zn, Mn, Cu

From minerals to benefits to productive stages, Lifetime Performance shows our commitment to stand by producers at all life stages offering solutions, tools and answers to help their animals show their full potential and live a lifetime of performance.



For more information:
contact your Zinpro
representative or visit
zinpro.com/lifetime-performance