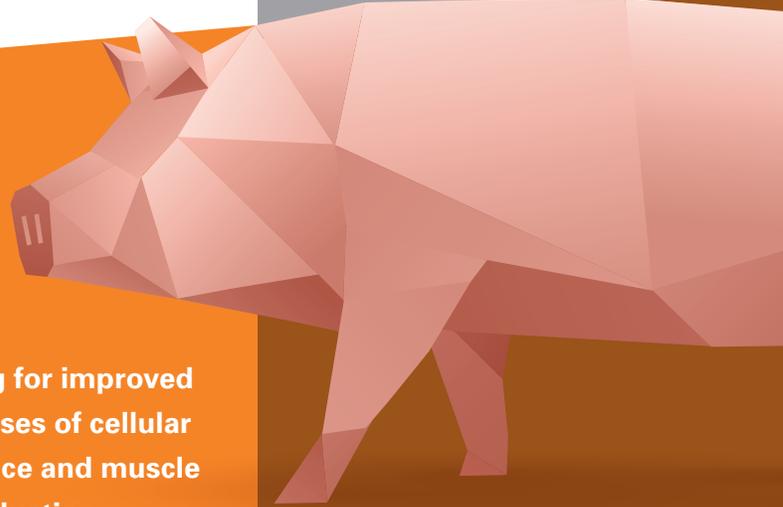


OPTIMIZE ENERGY UTILIZATION AND REDUCE STRESS

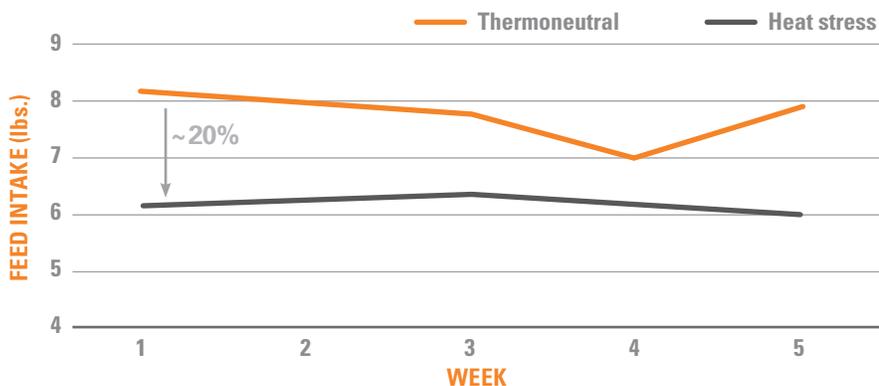
KemTRACE®
CHROMIUM
Essential to you and your operation.

KemTRACE® Chromium — the first product of its kind on the market — is a safe, proven trace mineral for use in swine. This highly bioavailable, organic source of chromium propionate increases mobilization of blood glucose into tissue, allowing for improved performance in the pig's hierarchy of needs. Key uses of cellular energy for swine include reproduction, maintenance and muscle or fat deposition. The net benefit is increased production and profitability in your operation.



ROLE OF CHROMIUM IN ENERGY UTILIZATION

When an animal is experiencing stress conditions, cortisol (a stress hormone) is released — resulting in behavioral, metabolic and immunological changes. These changes may have an impact on feed intake, which reduces the amount of glucose available to the animal.¹ In this way, stressors like the environment, health challenges, stocking density and more are often contributing factors to reduced feed intake and lead to energy loss.



Chromium has been shown to increase glucose uptake, allowing for better energy utilization under stress conditions.



KemTRACE® Chromium

ACTIVATES INSULIN
RECEPTORS

MORE GLUCOSE
ENTERS CELLS

MORE ENERGY
AVAILABLE

KEMIN

Kemin.com/Chromium
800-752-2864

INSULIN IS THE KEY

The primary energy source for cells is glucose. As carbohydrates break down to flood the circulatory system with glucose, insulin is required to transport glucose into the cell. Chromium has been shown to enhance glucose clearance from blood.²

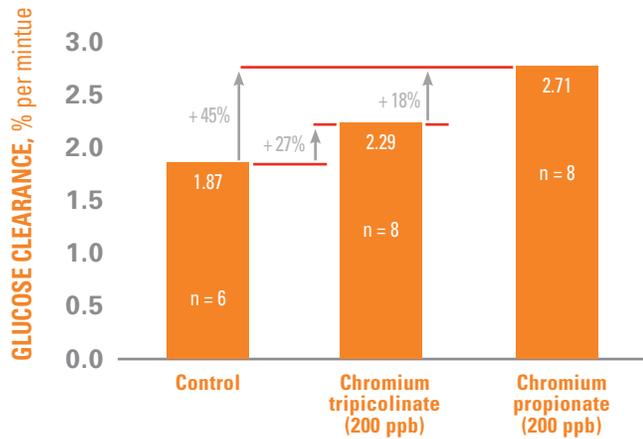


Figure 1: Pigs supplemented 200 ppb of KemTRACE Chromium (chromium propionate) cleared glucose 45% faster per minute than pigs not fed chromium.²

WHAT CAN THE ANIMAL DO WITH MORE GLUCOSE?

- Improve immune function
- Withstand the effects of stress
- Optimize performance during periods of high metabolic demand
- Increase protein accretion
- Improve feed efficiency

THE BOTTOM LINE

Chromium supplementation results in increased glucose uptake to support immune function, muscle and fat deposition and maintenance.

KEMIN IS COMMITTED TO QUALITY AND SAFETY

Kemin knows chromium. Only Kemin has invested more than 20 years and millions of dollars toward scientific research, validating the benefits of chromium propionate while bringing this essential trace mineral to millions of pigs around the globe.

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2. Matthews, J.O., L. L. Southern, J. M. Fernandez, J. E. Pontif, T. D. Bidner, and R. L. Odgaard. (2001). Effect of chromium picolinate and chromium propionate on glucose and insulin kinetics of growing barrows and on growth and carcass traits of growing-finishing barrows. *Journal of Animal Science*. 79:2172-2178.