

# BENEFITS OF CHROMIUM

**KemTRACE® Chromium** is a highly bioavailable, organic source of chromium that helps improve glucose utilization for increased cellular energy and function. This results in better animal maintenance, growth, reproduction and immunity.

KemTRACE Chromium is supported by more than 20 years of Kemin research and is the only U.S. Food and Drug Administration-reviewed form of chromium propionate.

## Insulin is the key

Insulin plays a key role in optimum cell function by acting as a “key” in the lock to the door that allows glucose into the cell. Once insulin has “unlocked the door,” blood glucose can enter the cell and be used as an energy source. **Chromium improves insulin function and results in efficient clearance of glucose from the bloodstream.**<sup>1</sup>



### Improved immune function

Upon activation, immune cells become obligate glucose utilizers.<sup>2</sup> Increased glucose uptake may help animals mount an immune response even under a severe immune challenge.



### Increased feed efficiency

Chromium has been shown to alter insulin action and either increase dry matter intake or minimize a drop in feed intake among animals subjected to stress.<sup>3,4,5</sup>



### Increased protein accretion

Insulin is the primary hormone responsible for the uptake and storage of glucose by insulin responsive tissues.<sup>6</sup> Muscle and adipose tissue are the main insulin responsive tissues in ruminants, but muscle accounts for over 80% of the insulin-dependent uptake of glucose.<sup>7</sup> Chromium acts to potentiate the action of insulin, increasing glucose availability within the cell.<sup>8</sup> Additional glucose in the muscle cell provides the energy for optimizing protein synthesis resulting in improved live performance and increased hot carcass weight.<sup>9</sup>



### Withstand the effects of stress

Chromium supplementation minimizes the negative effects of the stress response by consistently decreasing serum cortisol during stressful periods for cattle.<sup>10</sup> During a stress event, such as an immune challenge, there can be substantial increases in glucose consumption by immune cells shifting energy demands away from production.<sup>11</sup>

HOW  
**KemTRACE®  
CHROMIUM  
WORKS**

**ACTIVATES  
INSULIN  
RECEPTORS**



**MORE GLUCOSE  
ENTERS CELL**



**MORE ENERGY  
AVAILABLE**

# KEMIN IS THE SCIENCE BEHIND HEALTHIER CATTLE.

Since 1961, Kemin has used advanced molecular science to develop **industry-leading solutions for gut health, ruminant nutrition and feed quality**. It's just one of the ways we sustainably transform the quality of life every day for 80% of the world with our 500+ ingredients, which are all **backed by technical, lab and product support**. This ensures you have a partnership where you get the most out of every product.

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