

# CHROMIUM FOR DAIRY

KemTRACE®  
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, reproduction, growth and immunity. KemTRACE Chromium is supported by more than 20 years of Kemin research and is the only Canadian Food Inspection Agency and 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>

## IMMUNE FUNCTION

Upon activation, immune cells become obligate glucose utilizers.<sup>3</sup> Increased glucose uptake may help animals mount an immune response even under a severe immune challenge — such as heat stress.

## HEAT STRESS

Research studies, designed to test the effect of chromium on milk yield under heat stress conditions, have shown cows supplemented with chromium have increased dry matter intake and yield more milk than control cows.<sup>4</sup>

## REPRODUCTION

Chromium supplementation has been shown to reduce insulin resistance in dairy cows in early lactation.<sup>2</sup> Studies with chromium have also shown its ability to reduce subclinical metritis<sup>5</sup>, improve conception rates and pregnancy rates<sup>6</sup>, reduce days to first service, and increase the number of viable oocytes in cows supplemented with high-energy diets.<sup>7</sup>

## 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>8,9,10</sup>

## COWS WITH MORE ENERGY:

Chromium supplementation has been shown to improve energy utilization and reduce the impact of negative energy balance in early lactation.<sup>2</sup>

### KEY BENEFITS:

- Reduce negative energy balance<sup>7</sup>
- Improve immune function<sup>11</sup>
- Improve reproductive efficiency<sup>6</sup>
- Increase milk yield<sup>2,8,9</sup>
- Increase feed efficiency<sup>8,10</sup>
- Withstand effects of heat stress<sup>4</sup>

KEMIN®

[Kemin.com/ktchromium](http://Kemin.com/ktchromium)

450-467-0854

The logo for KEMIN, featuring the word "KEMIN" in a bold, black, sans-serif font. A thick, black, curved line arches over the letters "E" and "M", ending in a small registered trademark symbol (®).The logo for KemTRACE CHROMIUM. "KemTRACE" is in a smaller, grey, sans-serif font with a registered trademark symbol (®). "CHROMIUM" is in a larger, bold, grey, sans-serif font. An orange swoosh underline is positioned beneath "CHROMIUM", starting from the left and ending with two short, parallel orange lines on the right. Below the main text is the tagline "Essential to you and your operation." in a smaller, grey, sans-serif font.

1. Mertz, W. 1992. Chromium: History and nutritional importance. *Biol. Trace Elem. Res.* 32:3-8.
2. Hayirli et al., 2001. *J. Dairy Sci.* 84:1218-1230.
3. Palsson-McDermott et al., 2013. *BioEssays* 35:965-973.
4. Kemin Internal Document, 15-00066.
5. Yasui, T., et al., 2014. *J. Dairy Sci.* 97:1-11.
6. Ferguson et al., 2013. *J. Dairy Sci.* 96(E-Supplement 1):127.

7. Leiva et al., 2015. *Livest. Sci.* 180:121-128.
8. Y. Al-Saiady et al., 2004. *Animal Feed Science and Technology - ANIM FEED SCI TECH.* 117, 223-233. 10.1016/j.anifeedsci.2004.07.008.
9. An-Qiang et al. 2009. *Pak. J. Nutr.* 8:940-945.
10. Vargas-Rodriguez et al. 2014. *J. Dairy Sci.* 97:3815-3821.
11. Horst, E. A., 2017. Abstract 337. *J. Dairy Sci.* 100(2):361.