DESIGNED FOR OPTIMAL SOW PERFORMANCE
animal maintenance, reproduction, stress for increased cellular energy and reduce the negative impacts of helps improve glucose utilization from the blood, inhibiting sows from reaching their full lactation, which reduces the amount of glucose cleared to recover for the next reproductive cycle. In addition, milk production can be a challenge. A reduction in feed intake during lactation, which can impact performance metrics such as litter wean weights, non-productive sow days and sow longevity. Maintaining enough feed intake to support maintenance in addition to milk production can be a challenge. A reduction in feed intake creates loss in body mass that can be difficult to recover for the next reproductive cycle. In addition, sows can become insulin-resistant during gestation and lactation, which reduces the amount of glucose cleared from the blood, inhibiting sows from reaching their full genetic potential. Chromium mobilizes more blood glucose into tissues, allowing for improved performance based on the animal’s hierarchy of needs. As the primary source of energy for cells, glucose is critical to an animal’s performance and is used in several key metabolic functions.

Key uses of cellular energy for a sow include maintenance, reproduction and muscle or fat deposition. Depending on a sow’s needs, chromium supplementation can result in fewer non-productive sow days, greater feed intake during lactation and improved body condition, ultimately resulting in heavier weaned pigs.

### RESPONSE BASED ON HIERARCHICAL NEEDS

Chromium mobilizes more blood glucose into tissues, allowing for improved performance based on the animal’s hierarchy of needs. As the primary source of energy for cells, glucose is critical to an animal’s performance and is used in several key metabolic functions.

By increasing the availability of glucose, the sow has more energy for health, body condition maintenance, milk production and reproduction.

**REFERENCES**

SOWS AND STRESS
Stress has a tremendous impact on sow performance. Many factors such as health, environment, management practices, stocking density and nutrition contribute to the overall stress load that a sow faces daily. When a sow is experiencing stress conditions, cortisol (a stress hormone) is released, resulting in behavioral, metabolic, immunological and intestinal changes. Studies have shown that cortisol can have a negative impact on sow performance. Chromium has been shown to reduce the levels of cortisol, thereby reducing the negative impacts of stress.

WHY BIOAVAILABILITY MATTERS
The chemical form of a nutrient impacts the degree to which it can be absorbed and used to support important metabolic processes in an animal. In order for an animal to absorb minerals — such as chromium — the mineral must either solubilize or dissociate in the digestive system of the animal. KemTRACE Chromium is a highly bioavailable, organic source of chromium propionate.

FEEDING INSTRUCTIONS:
KemTRACE Chromium fed at 200 ppb has been shown to increase glucose clearance by 45% over the control pigs, thus allowing more energy to reach target tissues to maintain and improve performance.

References
KemTRACE® CHROMIUM

MODE OF ACTION

1. Insulin stimulates glucose uptake by cells.17

2. Readily available chromium propionate from KemTRACE® Chromium optimizes the activation of the insulin receptor.

3. The cell increases glucose uptake.

4. The additional glucose allows for more energy to be available for proper cell function, which can boost sow immunity, maintenance and reproductive performance.

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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 animals around the globe. Kemin has conducted more than 50 peer-reviewed chromium research trials in order to add further assurances regarding product safety, efficacy and traceability. Our rigorous regulatory approach demonstrates our commitment to safety and science.

COMMITMENT TO QUALITY
KemTRACE Chromium is manufactured from materials sourced entirely from the United States, under strict quality control specifications. Kemin also maintains a Food Safety System Certification (FSSC) 22000 — recognized under the Global Food Safety Initiative — for its manufacturing facility in Des Moines, Iowa.

CONFIDENCE STARTS IN THE LABORATORY
The quality and safety of our products are paramount at Kemin, and processes are in place for testing not only our final products, but also our raw materials. With our quality control program, customers can have confidence we understand our technology, how our molecules work and that the ingredients are safe and efficacious.

TECHNICAL EXPERTISE AT EVERY TURN
At Kemin, we are devoted to ensuring customers receive trusted nutritional advice when evaluating animal performance. KemTRACE Chromium is supported by our technical service team comprised of respected Ph.D. nutrition and animal health experts with an array of valuable experience in research and production.

KemTRACE Chromium is the only CFIA-reviewed source of chromium propionate on the market today.

Learn more about how KemTRACE Chromium can optimize sow performance at kemin.com/ktchromium.

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