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NEWS RELEASE
For Immediate Release

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CDR Staff Validate New Rapid Sodium Testing Method

MADISON –Staff at the Wisconsin Center for Dairy Research (CDR) recently validated X-ray fluorescence (XRF) spectrometry as a new method for analyzing sodium in cheese, providing manufacturers with the first quick and accurate method for directly measuring sodium in the presence of salt replacers.

The XRF technology, which is commonplace in the mining industry, had not previously been considered as a means for measuring sodium in cheese, but thanks to funding from the Innovation Center for U.S. Dairy, CDR staff were able to successfully develop and validate a method for both natural and processed cheeses. This work was recently published in the Journal of Dairy Science August edition, Volume 98, Issue 8, Pages 5040–5051, titled, “Evaluation of X-ray fluorescence spectroscopy as a method for the rapid and direct determination of sodium in cheese”.

The need for such a technology is due to the increased public interest in reducing sodium intake which has led many cheese manufacturers to begin using sodium replacers such as potassium chloride, large salt crystals/flakes, and sea salt (which may also contain potassium and magnesium salts), savory additives, and various flavor enhancers in place of traditional sodium. Unfortunately, until now, there was no quick way to measure the sodium level in products manufactured with these ingredients as traditional measurement systems used in the dairy industry calculated the sodium content based on chloride levels. This indirect measuring approach does not work when salt replacers like potassium chloride are used as the replacer contains chloride but no sodium, and thus the traditional methods will overestimate the actual sodium level in the cheese. This novel analytical method, allows manufacturers to quickly test, directly, for sodium in their products which will be key in improving quality and reducing variability.

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The Wisconsin Center for Dairy Research, College of Agricultural & Life Sciences, and University of Wisconsin-Madison, are dedicated to supporting the U.S. dairy industry through innovative research, technical support, training and education.