

# Pressure and Temperature During Vacuum Treatment of 290-Kilogram Stirred-Curd Cheddar Cheese Blocks

R. S. Reinbold, C. L. Hansen, C. M. Gale and C. A. Ernstrom

Galloway West Co., Galloway West Technical Center, Fond du Lac, WI 54935  
Utah State University, Logan 84322

Pressure and temperature during vacuum treatment at 8.0 kPa of absolute pressure were determined at the center and sides of 290-kg blocks of stirred-curd Cheddar cheese in stainless steel hoops that had or had not been pressed at 7.9 kPa of surface pressure prior to vacuum treatment. Pressure and temperature in the vacuum chamber also were determined. Pressure at the center of blocks that had not been pressed decreased to an average of 11.9 kPa of absolute pressure, and the pressure at the center of blocks that had been pressed decreased to an average of 17.0 kPa of absolute pressure during vacuum treatment. Temperature at the center of blocks that had not been pressed decreased by an average of 5.9° C, and the temperature at the center of blocks that had been pressed decreased by an average of 3.6° C during vacuum treatment. We concluded that pressing blocks prior to vacuum treatment compressed curd, which created a barrier to rapid air and whey evacuation from blocks during vacuum treatment. Entrapped air and whey may increase mechanical openness and may contribute to uneven moisture distribution in blocks of cheese.

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