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REDUCING MILK FOULING USING ULTRASONIC POWER

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ABSTRACT

Milk fouling is a well-known phenomenon, which is highly undesirable in the dairy industry. In this paper, we report the promising results of applying ultrasonic power to minimize milk fouling. The heat transfer enhancement caused by the ultrasonic power helps lowering the solid-liquid interface temperature for the same heating duty, which can lead to considerable fouling reduction. The ultrasonically induced high frequency movement of the depositing molecules at the near wall region is thought to be also responsible for fouling reduction as it does not allow the molecules to stay at the wall longer than the time they would need to form a firm deposit. The observations made in this study form a good basis for a more detailed and systematic investigation of this positive effect.