

The Effects of Freezing on Bacterial Counts in Bovine Bedding Materials

Author: Erin F Homerosky

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Project Advisor: Dr. Joseph Hogan

Bovine bedding samples are sent to mastitis labs to determine the existence of mastitis-causing pathogens, but are often frozen for transportation and storage, potentially affecting the counts of bacteria present. The purpose of this study was to determine the effects of storing bedding frozen on the bacterial counts of environmental mastitis pathogens compared with those in fresh, unfrozen bedding. Bedding samples were collected from two Holstein dairies during the summer months to determine the effects of freezing samples on bacterial counts, dry matter, and organic matter content. Sand, sawdust, and recycled manure bedding samples were weighed, diluted, and plated to analyze the significance between fresh, 7-day, 14-day, and 21-day frozen bedding samples, to represent the effects of frozen bedding samples during transportation and storage at mastitis labs. Although there was little difference between the samples frozen for 7, 14, or 21 days, results showed a significant decrease in bacterial counts when comparing fresh to frozen bedding samples. Consistency is therefore critical when determining the bacterial counts found in bovine bedding samples, generating a repeatable indicator of the existence of mastitis-causing pathogens.