

Bedding types and their effect on milk quality

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Production of high quality milk continues to be a priority for dairy producers. Through the adoption of modern milking practices and focus on udder hygiene, producers have controlled transmission of contagious mastitis pathogens and reduced the prevalence of intramammary infections. In fact, environmental mastitis pathogens now make up the greatest proportion of intramammary infections. Because bacterial exposure at the teat end is a risk for mastitis and cows spend large amounts of time lying down, teat contact with bedding plays a role in environmental mastitis. But what exactly is the effect of bedding on milk quality?

Researchers at the University of Wisconsin-Madison performed a study to identify associations of bedding type and management practices with milk quality and productivity. While this study examined larger farms, one could certainly apply the information from the study to any size dairy farm. The following information is from this particular study.

- Most farms used inorganic bedding (IB), followed by organic nonmanure bedding (OB), and then manure bedding products (MB).
- In this study, the majority of bulk milk total bacterial counts were less than 10,000cfu/mL and total bacterial counts were not associated with bedding type.
- Bulk milk somatic cell score was least for farms using inorganic bedding.
- Bulk milk somatic cell score was reduced when new bedding was added to stalls more than 1 time per week and when teats were dried before milking unit attachment.
- Bulk milk somatic cell score was reduced for farms using organic bedding when bedding in the back of stalls was removed and replaced regularly and when fewer cows with nonfunctioning mammary quarters were present.
- The rolling herd average (RHA) for herds using IB was 761 kg greater and 1,153 kg greater than the RHA of herds using OB and MB.
- The RHA was 353 kg greater on farms where farms identified subclinical mastitis and 965 kg greater on farms milking 3 times daily.
- Each 1% increase of cows with nonfunctioning mammary quarter was associated with a decrease of 57 kg of RHA.
- The bulk milk somatic cell score, proportions of cows with milk discarded, and proportion of cows with nonfunctioning mammary quarters were least for herds using inorganic bedding and were associated with increased productivity.
- Large Wisconsin dairy farms that used inorganic bedding had greater productivity and better milk quality compared with herds using other bedding types.

References: Journal of Dairy Science 98:7865-7885.