



SCC DIAGNOSTICS TOOL BOX



R-EF-5: Bacterial Populations on Teat Ends of Dairy Cows Housed in Free Stalls and Bedded with Either Sand or Sawdust

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Abstract

The main objectives of the experiment were: 1) to compare bacterial populations of mastitis-causing organisms on the teats of lactating dairy cattle housed on sand and sawdust bedding and, 2) to examine the relationship between bacterial counts present in the 2 bedding types with those on teat ends. Sixteen lactating Holstein cows were housed on either sand or sawdust-bedded free stalls using a crossover design with 3 wk per bedding type. Bedding samples were collected on d 0 (prior to animals lying on the bedding), 1, 2, and 6. Teat ends were sampled prior to the morning milking on d 1, 2, and 6. All samples were analyzed to determine coliform, *Klebsiella* spp., and *Streptococcus* spp. populations. There were 2 times more coliforms and 6 times more *Klebsiella* bacteria on teat ends of cows housed on sawdust compared with those housed on sand. In contrast, there were 10 times more *Streptococcus* spp. bacteria on teat ends of cows when housed on sand compared with sawdust. In both sawdust and sand bedding, coliforms, *Klebsiella* and *Streptococcus* counts increased over each experimental week, although patterns varied with bedding and bacteria type. Bacterial counts on teat ends were correlated with bacterial counts in sawdust ($r = 0.47$, 0.69 , and 0.60 for coliforms, *Klebsiella* spp., and streptococci, respectively) and in sand ($r = 0.35$ for coliforms and $r = 0.40$ for *Klebsiella* spp.). In conclusion, coliforms and *Klebsiella* spp. on teat ends were more numerous when cows were housed on sawdust bedding, but *Streptococcus* spp. were more numerous on teat ends of cows housed on sand.

Key words: bacterial count, sawdust, sand, teat end

Abbreviation key: MC = MacConkey; MCIC = MacConkey-inositol-carbenicillin

