

# Bacteria Counts In Sand and Sawdust Bedding

Gosia Zdanowicz, Jim Shelford, Dan Weary, Cassandra Tucker

Faculty of Agricultural Science, University of British Columbia, 2357 Main Mall, Vancouver, Canada BC, V6T 1Z4  
Email: [gosiablue@hotmail.com](mailto:gosiablue@hotmail.com)

## ■ Abstract

The objectives of the study were to compare bacteria populations of mastitis causing organisms in sand and sawdust bedding, and determine the relationship between bacteria counts in bedding with those on the cows' teats.

Cows were housed in two areas of a free - stall barn; in one area stalls were bedded with sawdust, in the other sand bedding was used. Animals spent three weeks on each treatment. Fresh bedding was added every 7 days. Visible fecal matter was removed daily as needed to keep stalls clean and dry. Bedding samples were collected on day 0 (prior to cows lying on the bedding), day 1, 2 and 6. Teat ends were sampled prior to the morning milking on day 1, 2 and 6. All samples were analyzed for the growth of three major groups of mastitis-causing bacteria: coliforms, *Streptococci spp.*, and *Klebsiella spp.*

Our results showed that there were more coliforms and *Klebsiella* bacteria in sawdust bedding than in sand bedding. Sand contained more *Streptococci* than sawdust. Bacterial populations in sawdust bedding, but not in sand, increased steadily for the first two days after adding fresh bedding and then stabilized. Bacteria counts in bedding were highly correlated to bacteria counts on teat ends.

## ■ Implications

Coliforms and *Klebsiella* bacteria are more common when using sawdust bedding, but *Streptococcus* bacteria are more common with sand. Producers can use this information in choosing bedding types depending on conditions in their farm.