R-EF-4: Bacteria Counts in Sawdust Bedding

J.S. Hogan and K.L. Smith
Ohio Agricultural Research and Development Center, The Ohio State University, Wooster

Abstract

Bacteria counts in untreated sawdust bedding were compared with those in sawdust bedding after the addition of lime and after daily replacement of bedding in the back one-third of the stalls. Addition of 1 kg of lime to 10 kg of sawdust reduced Gram-negative bacteria, coliforms, *Klebsiella* spp., and streptococci prior to use as bedding. Sawdust treated with lime also showed decreased bacteria counts compared with bacteria counts for sawdust that was replaced daily and compared with bacteria counts for control bedding after 1 d in the stall. The decrease in bacterial populations was related to an increase in bedding pH. Mean pH in the sawdust treated with lime was greater prior to use and after 1 d in the stall than the pH of other treatments. After 2 and 6 d in stalls, however, bacteria counts and pH were similar among treatments. Dry matter content of bedding did not differ among bedding treatments. Bacteria counts in bedding were positively correlated with teat skin swabs. Gram-negative bacteria and *Klebsiella* spp. counts on teat swabs were lower for cows housed on bedding treated with lime on d 2 compared with those for cows housed on control bedding and bedding that was replaced daily. Addition of lime to sawdust in the back one-third of tie stalls caused a decrease in exposure of teats to environmental mastitis pathogens in bedding for 1 d. Daily replacement of bedding had a minimal effect on bacteria counts in bedding and on teat skin.

Key words: sawdust bedding, bacteria counts, lime

Abbreviation key: MCIC = MacConkey-inositol-carbenicillin