



SCC DIAGNOSTICS TOOL BOX



R-EF-9: Growth of Environmental Mastitis Pathogens in Various Bedding Materials

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Abstract

The objective of the study was to determine whether, under controlled conditions, bedding materials vary in their ability to support growth of different environmental pathogens independent of the presence of feces, urine, or other contamination. Five sterilized bedding materials (fine hardwood chips, recycled dried manure, chopped newspaper, softwood sawdust, and chopped straw) and three bacterial species (*Escherichia coli*, *Klebsiella pneumoniae*, and *Streptococcus uberis*) were used for a total of 15 bedding/bacteria combinations, replicated in three trials. Samples were incubated at 37°C, and bacterial counts were determined over 5 d. Rapid growth was seen in straw and recycled manure, some growth occurred in hardwood chips, and a rapid decline in bacterial counts was observed in paper and softwood sawdust. In general, *K. pneumoniae* and *E. coli* showed more rapid growth or less rapid decline than did *S. uberis*. These results demonstrate that clean, damp bedding may support bacterial growth and suggest that high bacterial counts under barn conditions are influenced by factors more complex than type of bedding used.

