Activity of selected antimicrobial agents against strains of E. coli and Klebsiella spp. isolated from bovine intramammary infections. John R. Wenz1, Sarah A. Salmon2, Edward J. Robb2, Franklyn B. Garry1 and George M. Barrington3, Colorado State University, Integrated Livestock Management, Fort Collins, CO, USA1 and Pharmacia & Upjohn Animal Health, Worldwide Product Development, Kalamazoo, MI, USA2. Washington State University, Veterinary Clinical Science, Pullman, WA, USA3. Antimicrobial treatment of cows with coliform mastitis is controversial but commonly practiced in the US. Recent data has shown 42 percent of cows with severe coliform mastitis were bacteremic with a gram-negative organism. This suggests that parenteral antimicrobial therapy may be warranted. Most antimicrobial regimens employed for this purpose in the US are not labeled by the FDA for use in lactating dairy cows. Information about the antimicrobial susceptibility of clinical coliform isolates would be useful. Minimum inhibitory concentrations (MIC, micrograms/ml) of selected antimicrobial agents were determined using a commercially available microdilution panel for 101 E. coli and 13 Klebsiella spp isolates from bovine intramammary infections. The MIC90 (MIC that inhibits 90% of strains tested) for E. coli were as follows: ceftiofur = 0.5, cefquinome = 0.06, ampicillin = 32, gentamicin = 2.0, neomycin = 4.0, spectinomycin = 16, sulfamethoxazole = 512 and trimethoprim plus sulfamethoxazole = 0.12. The MIC90 for Klebsiella spp were the same except gentamicin = 1.0. The results of this study indicate ceftiofur, cefquinome, trimethoprim plus sulfamethoxazole and gentamicin were highly active against E. coli and Klebsiella strains from bovine IMI. Of these compounds, only ceftiofur is labeled for use in lactating dairy cattle and available in the US. Trimethoprim plus sulfamethoxazole use in lactating dairy cattle is prohibited and gentamicin use is discouraged because of prolonged residues in renal tissue and reports of lack of efficacy in treatment of coliform mastitis. Using current approved interpretive criteria for ceftiofur against bovine respiratory disease pathogens, 97.5% of the gram-negative bacteria tested would be susceptible to ceftiofur.