Authors should avoid the use of the term “antibiotic” when referring to a specific agent unless that agent is naturally occurring and unmodified (e.g., penicillin). The broader term “antimicrobial agent” is preferred because it includes naturally produced agents, semisynthetic agents, and totally synthetic agents. The term “susceptibility” should be used instead of “sensitivity.” Authors unfamiliar with antimicrobial susceptibility testing should obtain CLSI (formerly NCCLS) document M31 (Clinical Laboratory Standards Institute, 940 W. Valley Rd., Suite 1400, Wayne, PA 19087-1898) for specific information regarding antimicrobial susceptibility testing of veterinary pathogens. CLSI or NCCLS equivalent methods for antimicrobial susceptibility testing available outside the US are also acceptable. A list of these methods is available at http://www.oie.int/eng/normes/mmanual/a_00021.htm.

Two methods are generally used to generate antimicrobial susceptibility data: the agar disk diffusion (ADD) method and the minimum inhibitory concentration (MIC) method. The use of the term “Kirby-Bauer” to refer to the ADD method is incorrect and should be avoided. The correct citation for this method is the “disk diffusion method of Bauer et al.” The ADD method is a qualitative method and results should be reported as susceptible, intermediate, or resistant (SIR). If zone of inhibition diameters are reported, these should be reported in millimeters.

The MIC method is quantitative and results should be reported in micrograms per milliliter (µg/mL). The minimum summary statistics for reporting MIC results from multiple strains of an organism are the MIC50, the MIC90, and the range. The MIC50 and MIC90 represent the concentrations required to inhibit 50 and 90% of the strains, respectively. The MIC50 and MIC90 reported should be the actual concentrations tested, not values calculated from the actual data obtained. When <10 isolates of a species are tested, tabulate only the MIC range of each antimicrobial agent tested. If more than one drug is studied, insert a column labeled “test agent” between the columns listing the organisms and the columns containing the numerical data, and record data for each agent in the same isolate order. In addition, the percentage of strains categorized as susceptible, intermediate, or resistant may be reported. If only one of these categories is to be reported, the percent susceptible value is preferred. The percentage of resistant isolates is to be reported for an agent, it should include isolates categorized as intermediate.

The percentage of strains susceptible or resistant to an antibiotic at its breakpoint concentration may be given only if an appropriate breakpoint has been approved, as by CLSI. Given the paucity of approved breakpoints for mastitis pathogens, authors may use breakpoints from other species (e.g., human breakpoints for ampicillin or canine breakpoints for enrofloxacin). However, authors must clearly state that the breakpoints are not approved for mastitis pathogens. Moreover, authors cannot assign breakpoints or use breakpoints from related antibiotics (except for class testing purposes) or breakpoints developed for other methods.

Authors must indicate that the appropriate quality control tests were performed. Information regarding the frequency of testing and the specific strains tested should be provided. The frequency of quality control testing and organisms tested should conform to the recommendations in the CLSI standard (document M31) or equivalent. A single statement in the manuscript indicating that the results obtained for the quality control documents were within published ranges is acceptable. However, authors may be requested to provide the quality control information during the manuscript review cycle.