

JOHNNA LOPEZ and STEVEN ROOF, Department of Biology, Fairmont State University, Fairmont, WV, 26554. Investigating chicken bacterial cell density and serial dilutions: An educational approach

Serial dilutions to determine bacterial cell density is a standard technique taught in the microbiological laboratory. Traditionally students are given a culture of bacteria to determine CFU/ml for the culture, a rather dead end experiment. The goal of this experiment was to look for ways to make the traditional serial dilution lab more relevant, open ended and investigative. All students know that raw chicken is contaminated with bacteria and when removed from the refrigerator for any length of time they expect the numbers of bacteria to increase significantly. The question is increase by how much? With this in mind students now have a reason to learn the serial dilution process. To determine the feasibility of using Raw chicken, the chicken was incubated at 4 °C and room temperature (approximately 25 °C) for various times and serial dilutions were performed. Our results show that an incubation time of 25° C for 72 hours results in a significant difference in colony counts and this time would be appropriate for use in the teaching lab. Student initiated extensions to this exercise could include varying the time or temperature or using selective media.