

TAYLOR ROGERSON#, JOSEPH HORZEMPA, DEANNA SCHMITT, ASHLEY HAUGHT, and TRICIA GILSON, Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV, 26074. **Intra-erythrocytic Francisella tularensis are protected from acidic ph-implications on enhancing colonization of ticks.**

Francisella tularensis is a highly infectious bacterium that causes the disease, tularemia. Humans acquire tularemia through inhalation, oropharyngeal exposure, or tick bites. A unique feature of F. tularensis during infection is its ability to invade erythrocytes. Evidence has indicated that residing within an erythrocyte enhances the ability of F. tularensis to colonize ticks. Previous evidence indicated that F. tularensis bacteria that had been incubated with erythrocytes showed increased survival in an acidic environment (pH = 3.6), a condition consistent with that found in the gut cells of a tick. We wanted to further examine whether residing within an erythrocyte enhanced the ability of F. tularensis to survive in this acidic environment. To do so, experiments are currently being conducted in which F. tularensis LVS and a mutant strain (ΔmglA) incapable of invading erythrocytes are incubated with red blood cells. These cells are subsequently subjected to a low pH environment. Results of these investigations are pending the ongoing investigations.