

THERESA EVANGELISTA & JOSEPH HORZEMPA, Department of Biomedical Sciences, West Liberty University, West Liberty, WV, 26074. Use of *Heliopsis* and *Epilobium* extract to test for reduced viability of *Francisella tularensis*.

Through a collaboration with the National Center for Natural Products Research, we identified multiple extracts from plants that exhibited novel antimicrobial activity. These extracts led to reduced viability of the pathogenic bacterium, *Francisella tularensis* during an in vitro infection but did not alter bacterial viability in the absence of host cells. Therefore, rather than inhibiting a central biological pathway of bacteria, these extracts either functioned through immune activation or dampening virulence factor expression of *F. tularensis*. Two of these extracts were obtained from plants of the genera *Heliopsis* and *Epilobium*. In this work, we sought to validate and extend the previous findings. Future experimentation will utilize bio-assay-guided fractionation to isolate and identify the compounds responsible for the previously observed antimicrobial activity. In addition, we will conduct mechanistic studies to determine whether the responsible compound activates host cells or downregulates virulence gene expression of *F. tularensis*.