

UMESH NEPALI & JOSEPH HORZEMPA, Department of Mathematics and Natural Sciences, West Liberty University, West Liberty, WV, 26074. The antimicrobial activity of *Serena repens* (Saw Palmetto) extract against *Burkholderia cepacia*.

*Burkholderia cepacia* is a gram-negative bacterium and opportunistic human pathogen that most often causes pneumonia in individuals with weak immunity or underlying lung diseases such as Cystic Fibrosis. *B. cepacia* is naturally drug resistant to numerous antibiotics. Therefore, to potentially identify novel antibiotics that inhibit the growth of *B. cepacia*, we previously screened a library of nearly 4000 extracts of plants, marine life, and fungi from the National Center for Natural Products Research. From this screen, *Serena repens* (Saw Palmetto) extract significantly inhibited the growth of *B. cepacia*. The purpose of this work is to validate the antimicrobial activity exhibited by Saw Palmetto extract, and to isolate and identify the compound(s) responsible for this activity. Both disk diffusion and time-to-kill assays will be used to test the antibiotic properties of Saw Palmetto extract. I have conducted pilot studies to optimize experimental conditions that will be used in these assays. Further, we will extract organic compounds from different parts of the Saw Palmetto plant. These extracts will be lyophilized, reconstituted, and then utilized in the bioassays to test antibiotic activity. Subsequently, extracts with activity will be separated by chromatography. To identify the active compounds, pure molecules showing antibiotic activity will be subjected to NMR and Mass Spectrometry. (Supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence)