A PRELIMINARY HPLC STUDY TO DETERMINE IN CULTURALLY SIGNIFICANT PLANT SPECIES OF THE OGLALA LAKOTA PEOPLE THE PRESENCE OF COMPOUNDS THAT LOWER BLOOD GLUCOSE LEVELS

Kevin N. Ellis, Deig N. Sandoval and Yang Da-Qing
Department of Math and Science
Natural Products Division
Oglala Lakota College
Kyle, SD 57752

ABSTRACT

In previous research we showed that bitter gourd melon (*Momordica charantia*) extracts lower blood glucose levels in an animal model with induced diabetes. Aqueous extracts of sweet flag (*Acorus calamus*) and wild cucumber (*Echinocystis lobata*) gathered from a local Native American supply store and hand collected in the field were analyzed and compared to bitter gourd melon using HPLC techniques. Samples were obtained using a Microwave Accelerated Reaction System (MARS) and loaded into an HPLC system. The HPLC chromatographic signals were compared using the retention time ratios at $\lambda = 252$ nm and $\lambda = 350$ nm. Several combinations of solvents (methanol, ethanol, acetonitrile and water) were also run. We found that sweet flag and wild cucumber extracts produced similar retention time signals; however they were not exactly the same as the signals from *Momordica charantia* extracts.