Effects of Various Storage Conditions on Extending Shelf-life and Preserving Antioxidant Capacity of Blueberry (*Vaccinium corymbosum*)

Elias Zakko, Nicholas Cleffi, Anthony Perillo, and Dr. Yan Xu
School of Theoretical and Applied Science, Ramapo College of New Jersey, Mahwah, NJ, 07430

Blueberries (*Vaccinium corymbosum*) are known to contain high levels of antioxidants, a class of compounds that can prevent damage to cells caused by free radicals in the body. Incorporating blueberries into one's diet is a natural strategy to boost antioxidant intake and promote overall health. In fact, eating one cup of wild blueberries will provide about 13,000 total antioxidants, which is 10 times the USDA's recommendation.

However, the quality of blueberries deteriorates quickly during storage and the antioxidant content declines. In order to extend the shelf-life and preserve the levels of antioxidants in blueberries, dry lavender flower and essential oil were used in the treatments of this study to test their antimicrobial properties and potential to extend blueberry's shelf-life.

The DPPH test, a widely utilized method for assessing antioxidant activity, was used to determine the antioxidant capacity of the blueberries. By measuring the inhibition of free radicals through this method, we were able to gauge the effectiveness of different storage conditions in preserving the antioxidant content of blueberries over time.