

Progress in Roselle Hibiscus, *H. Sabdariffa*, Research at Southern University

Chin¹ Kit L., Y. Qi¹, F. Malekian¹, V. Ferchaud², J. Simon³ and G. Hankins⁴

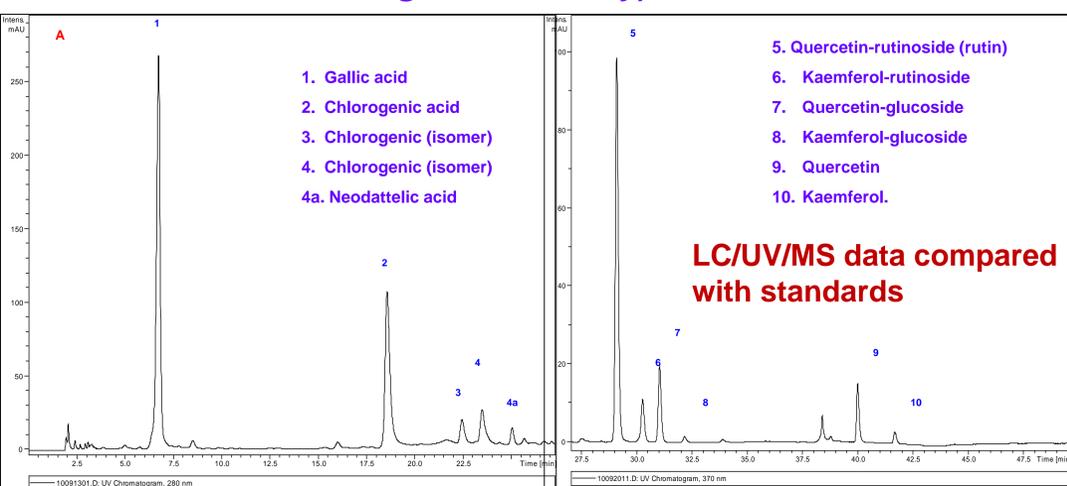
¹Professors, ²Post-Doc, Southern University Agricultural Research, Extension Center,

³New Use Agricultural and Plant Natural Products Program, Rutgers University & ⁴West Virginia State University

****21 roselle hibiscus accessions screened, four selected for further farm adaptability based on earliness in production**



****Leaves of 22 roselle accessions were extracted and determined for total phenol contents (Research carried out in collaboration with Rutgers University)**



Total phenol content of leaves: 1.2 to 1.8% by weight.

Anti-oxidant content of leaf extract: 1.9 to 5.1% by weight.

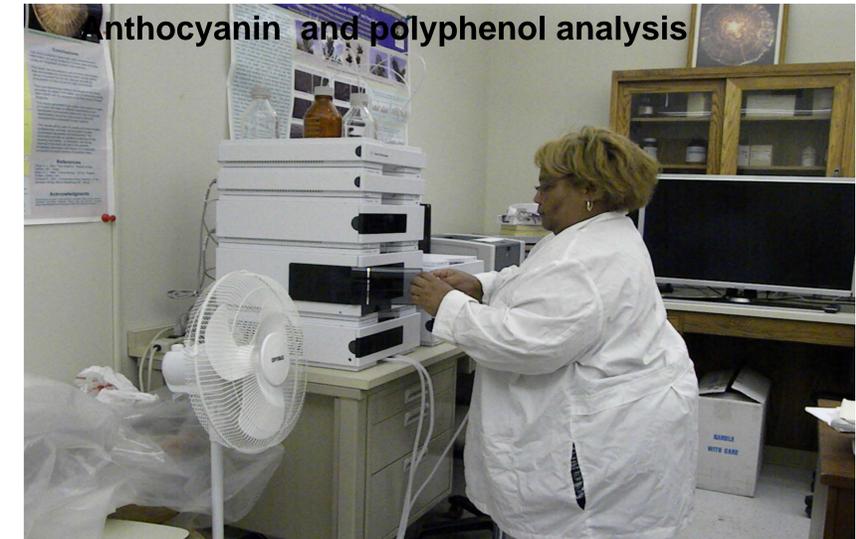
****In vitro cancer cell study at**

West Virginia State University



Dr. Gerald Hankins

Anthocyanin-enriched hibiscus calyce extract decreased proliferation of 3 cancer cell lines (U87 glioma, Pan-C1 pancreatic and CH157-MN meningioma cells). Data suggest that roselle calyce extracts can significantly reduce metabolism and proliferation of certain cancer cells.



Two major anthocyanins (delphinidin-3-sambubloside and cyanidin-3-sambubloside) were identified in the roselle calyces. No stilbenes (another group of antioxidants) were isolated from calyces.

****Exploring roselle hibiscus plants as (a) container flowering plants for Christmas and (b) cut flowers for seasonal marketing**



Value-added Hibiscus product development research

Summary

- Roselle hibiscus accessions of Jamaica, Nigeria, South Africa and Senegal-origins were found adaptable to Louisiana. Fruit yield/plant ranges from 12 to 20 lbs.
- Hibiscus concoction, chutney and jam were widely acceptable by consumers.
- The promising accessions, demonstrated medicinal properties to support niche marketing, consumer acceptability have led to the development of small farm enterprises on roselle value-added products and alternative uses.
- Phytochemistry laboratory for natural product has been established at SUAREC.
- Significant # of students exposed to natural plant products research.

****Antibactericidal effect of roselle calyce and leaf aqueous extracts**

In vitro study, no E. coli 0157:H7 and Salmonella Newport were detected in aqueous filtered calyce and leaf extracts (v/v) after 24 hr. incubation at 4, 8 and 25 °C. Listeria monocytogenes population was significantly reduced by 5 & 3 logs in calyce and leaf aqueous extracts at 24 hours and by 4-6 logs at 4 and 8 °C at 48 hr and non-detectable at 25 °C.

Roselle cookies



Salad



Drink