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Roselle hibiscus (*Hibiscus sabdariffa*) as a niche market crop for product development

Kit L. Chin[1], Y. Qi[1], D. Jaroni[2], G. Hankins[3] and J. Simon[4]
[1]Southern University Agricultural Research and Extension Center, Southern University and A&M College, USA
[2]Oklahoma State University,USA
[3]West Virginia State University, USA
[4]Rutgers University, USA

There are more than 300 species of hibiscus plants in the world. Roselle hibiscus is the only species that has its calyce grown into swollen part of the fruit. Roselle hibiscus has emerged as one of the most important specialty crops in the functional food sector because of its demonstrated medicinal properties and traditional uses. Its popularity is also attributable to increased health awareness and the change in life styles of the populace in preference for natural products. Both calyces and leaves are rich in health-promoting phytochemicals and contain useful amount of micronutrients such as Fe, Cu, Mn and Zn which are important for the food diet in developing countries. The calyce, the main component in the commerce, contains high amount of anti-oxidative polyphenols. Its total phenolic content varies from 1.0 to 3.3 % by weight according to species and exhibits antioxidant activities ranging from 2 to 5%. The leaves contain 2.4 to 6.4% of phytochemicals belonging to anthocyanidin, phenolic acid and flavonoid family. Anthocyanidins, mainly Delphinidin-3-sambubioside and cyanidin-3-sambubioside account for about 2.4% by weight and they can play an important role as a safe natural food coloring agent in the food industry over the synthetic dyes. In vitro studies have indicated that aqueous roselle calyce extracts reduced metabolism and proliferation of selected human cancer cells and inhibited the growth of E. coli 0157:H7, Salmonella Newport and Listeria monocytogenes. The observed bactericidal effect against food borne bacteria can make roselle extracts as antimicrobials in various food applications.

Biography

Kit L. Chin, a professor in horticultural research, received his Ph.D. in horticulture from Louisiana State University, Baton Rouge, Louisiana. He is the project director of the research team conducting varietal evaluation and product development research on roselle hibiscus for limited resource farmers for the past eight years.

KIT_CHIN@subr.edu