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Organic fertilizer effect on nutritional elements, total polyphenol and antioxidant content of Roselle (*Hibiscus sabdariffa* L.) leaves

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Roselle (*Hibiscus sabdariffa* L.) has emerged as one of the most important specialty crops in the functional food sector due to its demonstrated medicinal properties and nutritional values of its calyx. However, research on Roselle leaves has been very limited, even though the leaves are widely consumed by a diverse population of ethnic groups and rich in antioxidants. This paper focuses the elemental nutrients, total polyphenol and antioxidant contents of the leaves of Roselle as affected by the application of an organic fertilizer, 4-2-2 (NPK) at different rates at the time of planting. Results show that higher rate of the fertilizer application increased macro-nutrient concentrations in leaves. Young leaves (top three leaves) accumulated more macronutrients than mature leaves located at the bottom three leaves based on 31-cm long shoots. P and K concentrations were found to be higher in young leaves. Fe was the only element present at higher amount in the mature leaves than young leaves within the micronutrients. However, the application of organic fertilizer at the time of planting did not show significant effect on total polyphenol and antioxidant contents on a dry-weight basis.

Biography

Kit L. Chin, received his Ph.D. degree in horticulture at Louisiana State University. He is the project director of the research team who provides leadership in conducting world-wide roselle accession evaluation for small farm production in Louisiana, mentoring graduate students in roselle research, assessing the bioactivity of the roselle calyces and developing products for niche market. He has published several papers on the phytochemistry of the roselle plant. He has been providing consulting services to various small farmers in roselle production and product development.

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