

MULTI ELEMENTAL PROFILING OF ELEMENTAL CONTENT OF PEEL AND POMACE OF THREE CITRUS SPECIES IN SIKKIM HIMALAYAS

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Sikkim, a Himalayan state in India, is recognized as biodiversity hotspots in North east India due to varied agro ecological situation and with varying dominant farming systems. Among the various diversity, *Citrus* is one of the highly diversified crop found in Sikkim being used as a cash crop. Three species viz., Sikkim Mandarin (*Citrus reticulata*), Pomelo (*Citrus maxima*) and Rough Lemon (*Citrus limon*) are the prominent species of citrus found in Sikkim Himalaya, though *Citrus reticulata* is only the commercial species. Present study envisaged to study multielemental profile of these citrus species as an effect of altitudinal differences which were under research in various altitudes of Sikkim. The multi elemental content was studied using inductively coupled plasma mass spectrometry (ICPMS) that indicated increase in altitude results in increase of elements like Co, Li, U in immature peel and Mg, Mo, Fe, Pb, Ba, Ag, Ca, Cs, Li in (immature fruit pomace). Likewise, in mature peel Ag, Cd, Co, Cs, Cu, K, Li, Mo, U, B, Hg, I and Ce were abundant at higher altitude and (Ag, Ni, P and Mn) was observed higher at higher altitude in mature pomace in *Citrus reticulata* had been analyzed in mandarin. In case of pomelo, immature peel showed increase in Ag, Al, Cs, K, Li, Na, Ni, U, Si, Ce and Mn and I, Fe at higher altitude in immature pomace in immature fruit whereas mature peel from mature fruits were found to be having only highest K and Ag, Al, Cs, i, P, Ce were higher in mature pomace of mature pomelo. Further rough lemon showed rise in K, Na, U, Hg, Si, I and Fe in immature peel and Ni, I, Fe and Mn in immature pomace with rise in altitude. Likewise in mature peel and mature pomace Ag, K, U, Si, Mn and Ni, Mo, U, B, Zn, Hg, Si, I, Ce, Fe and Mn showed incline growth at higher altitude studied. The content of element as a function of altitude in all the species is analyzed and discussed.

Biography

Anjana Pradhan is currently pursuing her PhD from Sikkim University, Sikkim, India. She is the Agriculture Inspector in Food Security and Agriculture Development Department. She has published 5 papers in journal and two chapter book.

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