

SAPOGENINS AND MINERALS IN SOME YAMS IN SRI LANKA

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Fifteen cultivars of locally available yams of the species *Dioscorea alata* ("Hingurala", "Ini-ala", "Katuwala", "Khatangal", "Kiri-ala", "kirikondol", "Leydanta", "Rajala" and "Rasawalli") *D.esculenta* ("Jawala" and "Kukulala"), *D.bulbifera* ("Udala"), *Coleus rotundifolius* ("Innala") and *Amorphophallus componulatus* ("Kidarana") were examined for the presence of sapogenins by thin layer chromatography².

All the cultivars examined contained a compound giving the same Rf in two solvent systems and colour reaction with antimony chloride spray as diosgenin. There were unidentifed sapogenins observed in some cultivars. "Jawala", "Kiri-ala" and "Kukulala" showed a purple spot and "Ini-ala" "Khatangal", "Kiri-ala", "Kukulala" and "Udala" showed a pink spot on spraying with antimony chloride reagent.

The cultivars examined for minerals by atomic absorptiometry¹ contained the following mean concentrations (mg/100g) Calcium = 33.3, Copper = 4.4, Iron = 7.0, Potassium = 1136.9, Manganese = 21.1, Magnesium = 66.2, Sodium = 80.5 and Zinc = 2.9

The levels of Iron and Calcium available are much higher than what is available in staples such as rice (Iron = 0.5, Calcium = 4) and potatoes (Iron = 0.5, Calcium = 9). Consumption of 100 g of the yams could supply 50% Iron 22% Zinc and the total daily requirements of Copper and Manganese. The yams therefore form a very important source of minerals, specially Iron, in addition to their values as carbohydrate and proteins (6-12%) sources.

References

1. Gelman, A.L. (1972) Determination of cobalt in plant material by atomic absorption *J.Sci.Food Agric.* 23, 299-305.
2. Harbone, J.B. (1980) *Phytochemical methods*. Chapman and Hall, London, 113-117