

## Proximate composition of underutilized green leafy vegetables in Southern Karnataka

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### ABSTRACT

In India, various types of underutilized foods are available seasonally but are not utilized to the extent they should be in spite of their high nutritive value. Looking into the prevalence of high level of micronutrient malnutrition among vulnerable section, utilization of underutilized foods can be explored to overcome the nutritional disorders. Practically, there is no information available on the nutritive value of underutilized foods, which may contribute significantly to the nutrient intake of rural population. Thus, an attempt has been made to identify and analyze various underutilized vegetable for their nutrient content from selected region of south Karnataka. A total of 38 green leafy vegetables have been identified and the iron content of the same ranged between 3.68 to 37.34mg/100g, the highest iron content was observed in Nelabasale green, *Portulaca oleracea* (37.34mg). Calcium content ranged from 73 to 400mg/100g. Chilikere greens, *Oxalis acetosella* (400mg) had maximum calcium content. The highest ascorbic acid content was found in Knol Khol greens, *Brassica oleracea*.

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Green leafy vegetables occupy an important place among the food crops as these provide adequate amounts of many vitamins and minerals for humans. They are rich source of carotene, ascorbic acid, riboflavin, folic acid and minerals like calcium, iron and phosphorus. In nature, there are many underutilized greens of promising nutritive value, which can nourish the ever increasing human population. Many of them are resilient, adoptive and tolerant to adverse climatic conditions. Although, they can be raised comparatively at lower management cost even on poor marginal lands, they have remained underutilized due to lack of awareness and popularization of technologies for utilization. Now-a-days, under utilized foods are gaining importance as a means to increase the per capita availability of foods.

Since low consumption of green leafy vegetables in diet is one of the major factors, which leads to deficiency of vitamin A and iron, an attempt was made to identify and analyze the various underutilized green leafy vegetables for their nutrient content from selected regions of southern Karnataka.

### METHODOLOGY

A total of 275 households from five districts comprising of 32 villages were randomly selected and the respondent (woman) of each family was interviewed to elicit information on availability and utilization of underutilized foods. Samples of underutilized foods were identified and all the samples were collected directly from the fields. The moisture and ascorbic acid content of fresh

samples were determined within 24 hours of procurement.

The fresh samples were cleaned, washed, chopped and oven dried at 80<sup>o</sup> C for 16 to 18 hours. They were ground to pass through a 40-mesh sieve and stored in airtight containers under refrigerated temperature for further use. The powdered samples were subsequently used for chemical analyses. All the analyses were carried out on dry weight basis and expressed per 100g of edible portion. All the chemical analyses were carried out by standard procedures of AOAC (1975).

### RESULTS AND DISCUSSION

Macronutrient composition of underutilized greens has been reported in Table 1. Protein content of the samples ranged between 0.7 to 3.6g/100g. It was high in Bilihonagone soppu, *Alternanthera sessilis* (3.6g) and Mulla Harave soppu, *Amoaranthus spinosus* (3.6g) followed by Chinese soppu, *Souropus androgynus* (3.4g). Crude fibre content varied from 0.2 to 2.6g/100g being highest in Vayu soppu, *Gynandropsis pentaphylli* (2.6g) followed by Maddittu soppa (2.2g). The energy content ranged between 17-97 Kcal/100g.

Vegetables and greens are good sources of micronutrients as well. Micronutrient composition and oxalic acid content of vegetables has been presented in Table 2. Among the underutilized green leafy vegetables identified, iron content ranged between 3.68 to 37.34 mg/100g. The highest iron content was observed in Nelabasale soppu, *Portulaca deracea* followed by Annesoppu, *Celosia argentea* (28.26mg) and Naroli