

# Important indigenous plants used in the Transkei as food supplements

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## ABSTRACT

Despite the fact that there is a tendency to rely more and more on foods which can be purchased at stores, the indigenous edible plants or veld foods play a significant role in the diet of the people living in the rural areas of the Transkei.

Although more work is required to gather and prepare veld foods, they can be an important and inexpensive source of macronutrients — carbohydrates, fats and protein — and also micronutrients such as minerals and vitamins.

Some of the more commonly-used plants such as *Sonchus asper*, *Chenopodium album*, *Centella coriacea*, *Galinsoga parviflora*, *Urtica urens* and *Solanum nigrum* are discussed and nutrient composition given. The names of a few plants which should rather be avoided, are also given.

Many of these edible plants are also regarded as weeds and, instead of eradicating them, their cultivation should perhaps be encouraged.

## RÉSUMÉ

### PLANTES INDIGÈNES IMPORTANTES AU TRANSKEI COMME SUPPLÉMENTS ALIMENTAIRES

Malgré le fait qu'il y ait une tendance à dépendre de plus en plus des aliments pouvant être achetés dans les magasins, les plantes indigènes comestibles ou aliments du veld jouent un rôle significatif dans l'alimentation des populations qui vivent dans les régions rurales du Transkei. Bien que plus de travail soit requis pour ramasser et préparer ces aliments du veld, ils peuvent être une importante et peu coûteuse source d'éléments macro-alimentaires, d'hydrates de carbone, de graisses et de protéines mais aussi d'éléments micro-alimentaires comme les minéraux et les vitamines.

Certaines des plantes les plus communément utilisées telles que *Sonchus asper*, *Chenopodium album*, *Centella coriacea*, *Galinsoga parviflora*, *Urtica urens* et *Solanum nigrum* sont discutées et la composition alimentaire est donnée. Les noms de quelques plantes qui devraient plutôt être évitées sont également donnés.

Beaucoup de ces plantes comestibles sont aussi considérées comme mauvaises herbes et, au lieu de les détruire, leur culture devrait peut-être être encouragée.

There is a tendency for the indigenous population groups of southern Africa, to forsake traditional veld foods and to rely more and more on foods which can be purchased from the local store. However, escalating prices of processed foods may force a reversal of this trend. Indigenous edible plants or veld foods still play a significant role in the diet of people living in the rural areas of the Transkei (Rose *et al.* 1974). Although they are seasonal, the variety of plants used ensures that some will be available throughout the year. The leaves of certain plants such as *S. nigrum* can be dried and kept for use during winter months. Green leaves, shoots, bulbs and roots are together a major food source, with wild and cultivated fruits forming a relatively minor part of the daily diet. Every housewife has to be able to distinguish the wild edible plants which she can use to supplement her diet and that of her family.

With the decreasing availability of animal protein, the value of these plants, which supply leaf protein in abundance, as a supplement to a staple diet of maize, cannot be overstressed. The quality of leaf protein is, of course, not the same as that of

animal protein but, when the latter is in short supply, the judicious use of these indigenous plants can tide people over periods of famine. From the data given in Table 1 it is evident that plant leaves are also a good source of minerals, carotene, vitamin C and also contribute some B-vitamins to the daily diet.

In the Transkei there are over 100 different plants that are cooked as spinach with mealie meal *Zea mays* or used as relishes or side dishes. About 21 types of leaf are used as condiments, 23 roots and bulbs and 83 fruits are collected when available (Rose *et al.*, 1974). There are also some leaves, which are brewed as tea and used for medicinal purposes. Other potentially nutritious plants have to be avoided as they are poisonous.

### 1. *Imifino* plants

The types of 'imifino' or plants used as a spinach or pot herb can be divided into three categories:

#### 1.1 Commonly-used plants that are safe to use

*Sonchus asper* — irwabe  
*Chenopodium album* — imbikikane  
*Centella coriacea* — onongotysana

#### 1.2 Commonly-used plants that are not always safe to use

These plants must be picked with care, as some of the Xhosa names are interchangeable with those of

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TABLE 1. — Composition of leaves and fruits. (Results expressed on natural basis.)

Description of Material	g/100 g										mg/100 g										I.U./100g
	Mois- ture	Ash	Pro- tein	Fat	Fibre	Carbo- hy- drate	Energy value	Ca	Mg	Fe	Na	K	Cu	Zn	P	Thia- min	Ribo- flavin	Nico- tic acid	Vit. C	Caro- tene	
Irhabe ( <i>Sonchus asper</i> )	87.7	3.7	2.8	0.5	2.0	5.9	164	237.00	67.0	14.90	121.00	422	0.44	0.80	40.0	0.05	0.16	0.64	—	—	—
Imbikicane ( <i>Chenopodium album</i> )	83.6	3.6	4.7	0.3	1.7	6.7	200	239.00	162.0	4.80	9.90	833	0.25	2.00	76.0	0.03	0.23	0.71	8.0	6.0	10 000
Unongotozana ( <i>Centella coriacea</i> )	81.5	3.2	3.0	1.0	2.4	9.0	238	239.00	101.0	19.70	311.00	327	0.30	3.01	30.9	0.06	0.23	0.80	23.0	2.8	4 667
Umsobo wehlathi ( <i>Solanum 'nigrum' complex</i> )	82.5	2.6	3.9	0.7	2.6	7.6	219	213.00	98.7	8.60	—	512	0.33	1.12	25.5	0.07	0.20	0.44	2.1	4.4	7 333
Idolo lenkonyane ( <i>Rumex ecklonianus</i> )	82.8	1.9	4.6	0.7	1.8	8.0	240	111.00	85.0	9.70	14.00	693	0.13	2.40	74.1	0.16	0.17	1.54	—	—	—
Unomponitshane ( <i>Galinsoga parviflora</i> )	88.4	1.7	3.2	0.4	1.1	5.2	156	284.00	60.0	5.30	2.30	351	0.33	1.30	58.0	0.08	0.21	1.21	6.7	4.0	6 667
Umva wamadoda ( <i>Erigeron bonariensis</i> )	79.4	3.4	3.6	0.4	2.9	10.3	249	292.00	96.9	17.00	79.90	746	0.57	3.01	54.4	0.08	0.21	0.98	17.0	5.6	9 333
Iguzi ( <i>Physalis viscosa</i> ) leaves	82.8	2.7	4.9	0.6	1.7	72.0	226	151.00	110.0	21.60	183.00	748	0.26	1.30	65.6	0.12	0.25	1.33	—	—	—
Iguzi ( <i>Physalis viscosa</i> ) berry	78.8	1.4	2.2	1.3	—	—	—	9.34	28.8	1.13	3.55	581	0.59	0.64	52.0	—	—	—	50.0	2.3	3 833
Irawu ( <i>Urtica urens</i> )	80.2	4.7	5.2	0.6	2.9	7.1	232	528.00	127.0	7.20	51.60	553	0.28	0.57	112.0	0.03	0.33	1.21	2.1	4.9	8 167
Inkwandlakwandle ( <i>Senecio albanensis</i> )	86.3	2.6	2.6	0.7	1.9	5.9	169	199.00	73.9	15.10	3.90	389	0.37	0.07	53.8	0.08	0.16	0.90	14.0	4.6	7 667
Strawberry guava ( <i>Psidium littorale</i> )	80.4	0.8	0.7	0.6	6.2	11.3	276	82.90	42.1	0.73	59.20	219	0.17	0.22	15.0	0.08	0.02	0.37	19.0	—	—
Wild fig ( <i>Ficus</i> sp.)	87.4	0.8	1.3	0.8	3.0	6.7	165	36.90	27.8	0.67	4.81	333	0.17	0.45	36.0	0.06	0.01	0.40	3.0	—	—
Umbhongisa ( <i>Diospyros dichrophylla</i> )	63.7	2.4	1.7	0.1	1.1	31.0	553	30.90	38.6	0.97	—	444	0.23	0.34	20.6	—	0.004	0.29	41.4	—	—
Isiqwashumbe ( <i>Raphanus raphanistrum</i> )	87.4	3.1	3.7	0.3	1.4	4.2	142	285.00	98.9	9.51	6.80	530	0.18	1.36	54.6	0.07	0.14	0.62	11.0	1.8	3 000



inedible species and/or because there are times of the year when the plants are toxic. The majority of these plants belong to the *Amaranthaceae*.

Pigweed or hanekam (*Amaranthus paniculatus*) is called utyuthu, unomdlomboyi or imbuya and ujigenxawini in the Mount Fletcher district. The small pigweed (*Amaranthus thunbergii*) is also called utyuthu or unomdlomboyi. In some parts of the Transkei the name umambumbu is used for both *A. paniculatus* and *A. thunbergii*. Then *A. blitum* is also known as unomdlomboyi.

Most of the *Amaranthus* and *Chenopodium* species are nitrite accumulators. Only the early and young green shoots of these plants should be eaten.

Both the leaves and ripe berries of umsobo (a name applied to several species in the *Solanum nigrum* complex) are nutritious and a popular item in the diet. However, the unripe fruits are poisonous due to toxic alkaloids.

### 1.3 Less commonly-used 'imifino' (presumed safe)

- Rumex ecklonianus* — idolo lenkonjane
- Galinsoga parviflora* — unompotsane
- Erigeron bonariensis* — umvamadoda
- Raphanus raphinistrum* — isiqwashumbe
- Physalis viscosa* — iguzi
- Urtica urens* — irhalijane

### 2. Plants which should be avoided at all times as they contain toxic alkaloids

- Senecio albanensis* — impondlapondla  
inkwandlakwandla
- S. deltoideus* — undenze  
ityholo
- Pachycarpus* sp. — itshongwe
- Solanum incanum* — umthuma
- Solanum aculeastrum*
- Cassine capensis* — umbovane

The species of *Senecio* contain pyrrolizidine alkaloids which are liver toxins and may cause liver cancer (Rose, 1972). *Solanum incanum* contains nitrozamines which are notorious for their cancer-inducing properties.

### 3. Plants used as a relish to give a bitter taste to maize meal

- Especially leaves of:
- Physalis peruviana* — iguzi
  - Prunus persica* — ipisika

In Table I the composition of leaves of some of these plants and a few fruits which have been analysed in the laboratories of the National Food Research Institute of the CSIR, are given.

These leaves are usually eaten in some or other cooked form in conjunction with white maize meal porridge. The latter is a poor source of protein, calcium, iron, zinc, riboflavin, nicotinic acid and contains no vitamin C or carotene (pro-vitamin A). Maize meal porridge is a good source of magnesium, potassium and thiamin, but a fair amount of the phosphorus is in the form of phytic acid which is not available to the body. Phytic acid can also combine with calcium, magnesium, iron and zinc to form the insoluble salts which are then unavailable to the body. Phytic acid occurs mainly in the maize bran and, although it has not been determined in these plants, one can assume that very little, if any, should be present.

From the figures given in Table 1, it is evident that these plants supplement protein to some extent and that they are a good source of minerals, especially calcium, of which maize is a very poor source. Riboflavin and nicotinic acid are well supplemented and, of course, vitamin C and carotene. The latter, especially  $\beta$ -carotene, is converted to vitamin A in the body which is stored in the liver and can tide people over in the winter months.

When planning a health programme for the Transkei, these indigenous plants should not be ignored as they are a good source of food, require no special cultivation or care. They are there for the picking when more expensive to grow and, sometimes, less nutritious, garden vegetables are unobtainable. Many of these plants are regarded as weeds and their eradication is sometimes advocated. Perhaps their cultivation should rather be encouraged.

### REFERENCES

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