



## The super nutritious *Cloeme gynandra* L. Nonduduzo Manyoni

Although our bodies require only small quantities of micronutrients (vitamins and minerals), their deficiency can result in a variety of health problems. Inadequate dietary intake is one of several factors leading to micronutrient deficiency, which is also known as hidden hunger. People from poor households are heavily dependent on high starch diets which are lacking in dietary diversity; they are, therefore, the most likely to be affected by micronutrient deficiency. Vitamin A, iron, folate, zinc and iodine are the most commonly deficient nutrients.

Leafy vegetables are plant species of which the leafy parts (sometimes including young, succulent stems, flowers and very young fruit) are used as a vegetable. Leafy vegetables play a huge role in improving human nutrition because they are natural sources of folic acid and are good sources of vitamins, iron and calcium. Among these are indigenous leafy vegetables (known as 'imfino' in isiZulu); plant species that have their origin in South Africa or were introduced to the country so long ago that they are now recognized as traditional crops.

### Advantages of indigenous leafy vegetables

The advantages of indigenous leafy vegetables vary depending on the species considered, but they often:

- Grow naturally when soils are disturbed
- Require low input costs compared to exotic leafy vegetables
- Are drought, disease and pest tolerant

- Have a shorter growing season than exotic species.

### Significance of indigenous leafy vegetables

- Play a role in household food security as they are generally consumed during times of food shortage
- Contribute to nutritional health as they are highly nutritious and often have higher micronutrient concentrations than exotic leafy vegetables
- May be sold to generate household income.

### *Cloeme gynandra* L.

*Cloeme gynandra*, commonly known as cat's whiskers, spider flower, spider plant and African cabbage, belongs to the *Cleomaceae* family. It is an erect annual herb that has spread to many tropical and subtropical regions of the world. Its tender leaves, petioles and flowers are eaten as a leafy vegetable. The plant is also used for medical purposes. Cat's whiskers can grow up to about 1.5 m high and it produces hairy, branched stems, which are both green and purple.

Each leaf has three to seven leaflets and the plant develops an inflorescence that carries white, pale, pink or lilac flowers. Pods are long-stalked, capsule-shaped and green in colour, turning yellow when fully ripe. Seeds are small, rough and may be black or greyish in colour. In South Africa, the plant is found in the North-West, Limpopo, Gauteng, Mpumalanga, Northern Cape, and KwaZulu-Natal provinces.



**FIGURE 1:** *Cleome gynandra* flowers and pods  
([www.blogs.worldwatch.org](http://www.blogs.worldwatch.org))

### **Nutritional benefits**

Leaves of the plant have been reported to contain higher levels of vitamin A and C, protein, magnesium, calcium, iron, manganese, phosphorus, potassium, zinc, total phenolics and flavonoids (small organic compounds which reportedly have anti-inflammatory, anti-cancer and anti-viral properties) than cabbage and Swiss chard. However, the plant's nutritional content is affected by the environment, soil fertility, variety, maturity and production practices used.

### **Other uses**

In addition to its culinary use, cat's whiskers is used in the treatment of joint inflammation, piles, fever, head and stomach aches and several other illnesses.

### **Agronomic requirements**

Cat's whiskers grows well under high light intensity, and at temperatures of 18 – 27 °C. It grows best during summer, especially when adequate moisture is available (it is frost tender). The plant's C4 photosynthetic pathway allows it to survive relatively dry and hot environments. The plant does well in well-drained, medium-textured soil with a soil pH of 5.5 - 7.0. It is propagated by seed and land preparation is crucial as seeds require a thoroughly prepared seedbed. The

crop is usually planted by broadcasting or drilling seeds into rows at shallow depth (1-5 mm) as they are sensitive to deeper planting. The crop can be grown on either raised or flat beds. The recommended spacing is 30 to 50 cm between rows with a plant spacing of 10 to 15 cm between plants. Weed control is most critical during the first six weeks and may be done either by shallow cultivation or by hand-pulling. The crop's fertilizer requirements are met by applying organic manure and inorganic nitrogen-containing fertilizers. Thinning is carried out at three weeks after emergence and thinned plants may be consumed. Harvesting is done by uprooting whole plants or by harvesting individual leaves at frequent intervals. Cat's whiskers has a short vegetative cycle; harvesting starts at four to six weeks after seedling emergence and may last for four to five weeks.

In KwaZulu-Natal, the most widely consumed indigenous leafy vegetables (used at young growth stage) are black jack, amaranth and pumpkin leaves. Despite growing naturally in parts of KwaZulu-Natal, cat's whiskers is unknown to many in the province. Promoting the production and consumption of the crop in the province will play a significant role in enhancing food security, nutritional status and human health.

### **Contact**

Nonduduzo Manyoni

Candidate scientist

Tel: 033 355 9525

[ndu.manyoni@kzndard.gov.za](mailto:ndu.manyoni@kzndard.gov.za)

KZN Department of Agriculture & Rural Development  
Directorate: Agricultural Crop Research Services  
Sub-directorate: Crop Scientific Research Services  
Division: Crop Protection Services, Cedara

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