

## Non-Conventional Food Plants of the Family Cactaceae: A Healthy Food Option

**Martha Elisa Ferreira de Almeida\***

*Universidade Federal de Viçosa, Campus de Rio Paranaíba, Brazil*

**\*Corresponding Author:** Martha Elisa Ferreira de Almeida, Universidade Federal de Viçosa, Campus de Rio Paranaíba, Brazil.

**Received:** December 25, 2016; **Published:** February 18, 2017

Several species still underexploited of the Brazilian flora can constitute a source of alternative income and an option of cultural diversification, in the agricultural activity, mainly in the family agriculture. Taioba, serralha, mustard ora-pro-nobis are non-conventional food plants consumed by some rural and urban populations, which contribute to complementing the diet and family economy [1]. Vegetables in this category are not yet commercially produced, such as tomato, kale, lettuce, but may be included in the diversification of production, especially for low-income groups, and the lack of information nutritional value and its preparation, causes that its consumption is still reduced [2].

There are some edible species of cactaceous of the genus *Pereskia*, the most common being *Pereskia aculeata* and *Pereskia grandifolia*. In India and Malaysia these cactaceae have been used mainly in the prevention and / or treatment of diseases. In Brazil, several studies are being carried out to evaluate their food consumption; characterize its nutrients, antinutrients and / or bioactive compounds in its leaves and fruits; as well as to evaluate the effects of extracts of its leaves or the flour of its leaves *in vitro* (cell cultures and bacterial growth) and *in vivo* (animal metabolism of rats and mice) [3].

The ora-pro-nobis, popular name of the species *Pereskia aculeata* Miller and *Pereskia grandifolia* Haword, is a plant belonging to the kingdom *Plantae*, class *Magnoliopsida*, order *Caryophyllales*, family *Cactaceae* and genus *Pereskia*, whose interest of the food and pharmaceutical industries has been increasing in the last years, mainly due to its high protein content with high digestibility, of mucilage-type fibers and minerals, especially iron and calcium [3].

*Pereskia aculeata*, commonly referred to as a climbing vine, lemon-grass, gooseberry, American gooseberry and lobrobo, is a shrub-climbing vine considered the holder of the largest number of primitive characters in the *Cactaceae* family. This plant is native to tropical America, and in southern Africa it has caused the infestation of the forests, and it has been suggested that it has been distributed from this region of the planet to the Americas. It was also located in East India, the United States of America (in the Florida region) and Brazil, where it occurs from Bahia to Rio Grande do Sul [3].

Popularly known as a backyard plant, it has a thin stem with long, sub-woody or woody branches, in which large, succulent leaves with few spines are inserted (Figure 1). It is characterized by a vegetative development during the whole year, and its consumption occurs mainly in the old mining regions in Minas Gerais, Brazil. The high protein and fiber content (mucilage) and lack of toxicity of the leaves of this plant indicate it as an important source in human food (soups, sausages, scrambled eggs, omelettes and salads) and animals [3].



**Figure 1:** *Pereskia aculeata* Miller.

Available in: [www.google.com.br](http://www.google.com.br).

*Pereskia grandifolia*, commonly known as pink cactus, jumbeba and pink-wood, is a vastly distributed plant from the northeast to the south of Brazil. Due to the beauty of its flowers, it has been cultivated as an ornamental plant (Figure 2). The leaves have a high content of proteins and mucilages and are used as emollients in the treatment of rashes, and their fruits have an expectorant and antisyphilitic activity. Both leaves and fruits are used in the cooking of some Brazilian regions [3].



**Figure 2:** *Pereskia grandifolia* Haword.

Available in: [www.google.com.br](http://www.google.com.br).

The consumption of ora-pro-nobis, also called “meat of the poor”, was associated by residents of a city of Minas Gerais, Brazil, mainly to the treatment of iron deficiency anemia, cancer, osteoporosis and intestinal constipation [4]. The leaves of these two cactaceous are important sources of proteins, fibers, minerals (iron and calcium) and bioactive compounds. Even if antinutrients are detected in the flours of their leaves, their daily consumption will not be sufficient to cause harm to human health [5]. The flour of *Pereskia grandifolia* promoted the reduction of the weight gain of rats and their serum levels of triacylglycerols and glucose [6].

Thus, it is suggested that the use of the cactaceous called ora-pro-nobis, a Non-Conventional Food Plant, in the human diet may result in improvement of biological parameters markers of diseases such as protein malnutrition, iron deficiency anemia, osteomalacia and osteoporosis, dyslipidemias, obesity, diabetes mellitus, cancer and kidney diseases.

### Bibliography

1. Kinupp VF. “Alternative food plants in Brazil: a complementary source of food and income”. *Brazilian Journal of Agroecology* 1.1 (2006): 333-336.
2. Rocha DRC., *et al.* “Noodles added of ora-pro-nobis (*Pereskia aculeata* Miller) dehydrated”. *Food and Nutrition* 19.4 (2008): 459-465.
3. Almeida MEF. “Cacti leaves meal of the genus *Pereskia*: nutritional characterization and effect on wistar rats submitted to the hypercaloric diet”. Thesis (PhD in Agrochemistry)-Department of Chemistry, Federal University of Lavras, Lavras (2012).
4. Almeida MEF and Corrêa AD. “Utilization of cacti of the genus *Pereskia* in the human diet in a municipality of Minas Gerais”. *Ciência Rural* 42.4 (2012): 751-756.
5. Almeida MEF., *et al.* “Chemical characterization of the non-conventional vegetable known as ora-pro-nobis”. *Bioscience Journal* 30.3 (2014): 431-439.
6. Almeida MEF., *et al.* “Improvement of physiological parameters of rats subjected to hypercaloric diet, with the use of *Pereskia grandifolia* (Cactaceae) leaf flour”. *Obesity Research and Clinical Practice* 10.6 (2016): 701-709.

**Volume 7 Issue 3 February 2017**

© All rights reserved by Martha Elisa Ferreira de Almeida.