



Rooibos Tea

Botanical name:	<i>Aspalathus linearis</i>
Family name:	Fabaceae
Commercial names:	Rooibos tea, Red bush tea
Vernacular names:	African red tea, Mountain tea

Traditional and Modern Medicinal, Cosmeceutical and Nutritional Uses

The indigenous Khoi-Khoi tribe of the Cedarberg and Elephants river region of the Western Cape of the Republic of Southern Africa (RSA), knew the health supporting values and refreshing qualities of this red tea for centuries. Rooibos has been traditionally used for years to help with insomnia, disturbed sleeping patterns and headaches. Rooibos tea contains no caffeine and has a relaxing effect on the central nervous system. Rooibos makes a great thirst-quencher and sports and endurance drink. Because of its abundant mineral content of iron, potassium, zinc, manganese and sodium, it is of interest as a sports drink following strenuous exercise. The antiallergenic properties of rooibos are ideal for the treatment of rashes. Traditionally, Africans used rooibos leaf extracts to bathe babies and children who suffer from allergic skin conditions, such as eczema, itching and rashes.

Rooibos tea is also used as an alternative for children who are allergic to dairy products and soybean formulas. It is purported to enhance the milk production in lactating mothers. Therefore, among indigenous rural black South Africans, rooibos tea is frequently used to improve the appetite of children, and is thus very popular among African mothers whose babies have difficulties in breastfeeding.

In modern times, rooibos is found to contain α -hydroxy acid and zinc, especially known to be useful for healthy and smooth skin. It can be applied to skin irritations like itchy skin, eczema, sunburns, diaper rashes, acne and additional formulations can be made using various thyme extracts for internal and external applications (Letchamo, 2001). The products formulated with rooibos tea include, skin creams, gentle shampoos and rooibos soaps. Both South Africa and Japan are the leaders in researching the plants biology and nutraceutical properties. Rooibos products are very popular in the RSA and Japan.

Rooibos has been demonstrated to have antiaging properties by Inanami *et al.* (1995), due to the abundant presence of antioxidants, quercetin, and other flavonoids, that counter the effects of free radicals. Various research findings have shown rooibos to have antimutagenic (Marnewick *et al.*, 2000; Joubert & Ferreira, 1996) and anticarcinogenic (Komatsu, 1994) properties – relating to the free radicals, which can attack the human DNA in the nucleus of the cell. Rooibos can be used as a basis for meat tenderizer, soups, and casserole dishes. Rooibos is also used in many baked products, such as whole wheat fruit loaf, nutty biscuits, chocolate cakes, and bran rusks, adding natural color and taste to the confectionery.

Historical Background

As is the case with most African herbs, the indigenous Africans of the Cedarberg Mountains of South-Western Cape were the first to discover the fine, needle-like leaves of a reddish, shrub-like plant (hence the name, rooibos, which literally means “red bush”) can be used as a health tea, with an exceptional taste and aroma. The indigenous African Khoi-Khoi nation prepared beverages after they harvested the plants from its natural habitat with axes, bruised it with hammers, and left it to ferment in heaps, before drying it in the sun. Rooibos is still processed in much the same way today; only the process is now slightly more mechanized. Rooibos is unique to South Africa and can be labeled as one of the success stories of Africa.

In 1904, Benjamin Ginsberg, a Russian immigrant, pioneer in the business area and a descendant from a family who had been in the tea industry in Europe for centuries, became interested in rooibos and began trading rooibos with the people

from the Cedarberg Mountains, buying from them and reselling it in other areas. Ginsberg's background furnished him with the necessary experience to market the new "Mountain Tea".

Ecology and Botany

Rooibos belongs to the legume family, and fixes nitrogen, thereby minimizing the need for chemical fertilization, and providing a valuable low fertilizer input crop. Unfertilized crops of *A. linearis* contribute significantly to the nitrogen economy of the ecosystem (105 – 128 kg N ha⁻¹) indicating the remarkable adaptation of this symbiosis of the nutrient-poor, low pH conditions (pH 3-3.5) of the Cedarberg soils (Muofhe, 1999). Muofhe (2000) further reported that *A. linearis* also has the adaptation to increase the rhizosphere pH as an adaptive measure to overcome the adverse effects of low pH in enhancing nutrient acquisition and reducing the toxicity of the trace elements. A detailed botanical description of the plant is presented in Van der Bank, *et al.*, (1999).

Cultivation, Harvesting and Processing of Rooibos

The plants are ready for harvest after 18 months of transplanting. The basic method of rooibos production from planting to harvesting is largely unchanged from the process first used by the African mountain dwellers, centuries ago. It involved gathering and chopping the wild plants, bruising their stems, and allowing them to ferment and dry. Today, rooibos is cultivated as a modern agronomic crop rather than collected from the wild. Vast improvements in production technology and the implementation of a quality control system can ensure a high quality product from seed to grocer's shelf. The plants are harvested once each year, between December and April. About 95% of all the tea crops are still cut by hand with a sickle. In some commercial cultivation, however, machine harvesters are used to cut the top half of the plants, leaving it standing about 30 cm (1 foot high). The tea is then spread on a 'tea court' to allow fermentation or "sweat process". This fermentation process significantly influences the quality of the tea. Before packing or shipping, the tea is tested for cleanness and safety for human use. Rooibos is purified by advanced pasteurisation, then dried once more, and rigorously monitored for microbial or bacteriological freedom.



Fig. 1. Commercial seedlings of Rooibos in Clan Williams, South Africa (left); rooibos roots with N-fixing rhizobium nodules (right). (Photo's by E. Jefthas and J. Goliath).

Selected References

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