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## Baobab

. . . the genuine nutraceutical superfruit

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### Fruit Pulp

The best known and most commonly used product of Baobab is the fruit pulp. Production methods are simple and effective. The pulp of the fruits is already dry when harvested. They only need to be opened and all contents - fruit pulp, red funicles and seeds - can be processed directly. The soft, whitish and powdery fruit pulp is pulverized, sieved and packaged. Baobab fruit pulp is a 100% natural product. No extraction and no drying are needed. No chemical or physical modification is made during the processing and no additives are added. It can be used as natural food ingredient in smoothies, dairy products, beverages, jams, pastries and functional food. It is free of allergen, gluten and lactose and suitable for vegan and raw products. It has anti-viral, hepatoprotective, inflammation limiting, analgesic, antipyretic and antioxidant functions. Baobab fruit pulp is also the perfect solution for digestive problems. Nearly 50% of the Baobab fruit pulp consists of dietary fibers. One half is water soluble, the other half insoluble. It provides the human gastrointestinal tract with the perfect balance between prebiotic activity and a high quantity of inert fibers. The very high content of Vitamin C and Calcium provides support and hardness to bones (e.g. to prevent osteoporosis), teeth and nails. Baobab pulp is also extremely rich in potassium (about 3%). And its antioxidant and anti-inflammatory effect make Baobab pulp a good raw material for cosmetic products. Further fields of application are phyto-pharmaceutical, pharmaceutical and herbal industries.

### **Red Funicles**

Red funicles, also called red fibers, are not as well known as Baobab fruit pulp. Unjustly so, because red funicles have an impressive antioxidant capacity. They are not only the most antioxidant richt parts of the Baobab family. They even have higher antioxidant values than any other known antioxidant food. Red funicles are filaments that subdivide the pulp inside the ripe Baobab fruit. They contain anthocyanins, gallic acid, tartaric acid, phenols and flavonoids (Besco E. 2007). That makes them a very valuable ingredient for dietary supplement as well as pharmaceutical formulations as they are a natural alternative and complement of synthetic preservatives. The fields of application are vast. Red funicles can be employed in case of unbalance, to contrast oxidative stress and they are a very valuable ingredient in supplementation to prevent photo-damages, photo and physiological aging, to prevent skin and hair diseases and to improve symptoms of inflammation. There is a huge potential behind red funicles.

### **Baobab** The genuine nutraceutical superfruit

Baobab, a tree plant belonging to the Malvaceae family, is a little wonder of versatility and its fruit an exotic all-rounder. Or, to use the scientific term, a nutraceutical superfruit. Adansonia digitata grows in Africa's Sub-Sahara semi-arid and sub-humid regions. The biggest specimens are 30 meters in height and have a diameter of up to 11 meters.

The trees can get really old. Carbon dating showed that one Baobab in Namibia was 1,275 years old. A single tree can hold up to 4,500 liters of water. Shortly before waterless season the tree sucks all the water from the fruits and stores it in his trunk. That's why the fruits are naturally dehydrated before they are ripe.

A major tree will produce 160 to 250 fruits. The fruit crop is transported to the processing center where the fruits are cracked open and the dry fruit pulp is taken out and ground to a powder. Baobab production meets the standards of sustainable and fair trade.

By Pamela Lutz, Gabriele Fernsebner, Martin Spaeth (Biomega e.U.) and Ama Mbaye (Baonane sarl)

### The tree of life

Indigenous people use every part of the tree - leaves, roots and fruits - as food and medicine for humans and animals. The strong and durable bark is used for baskets, fiber and cloth (Drar, M 1970).

The fields of application are as comprehensive as the nutritional properties. The fruit contains an exceptionally high content of Vitamin C. In some areas in Africa locals mix the fruit pulp with water or fresh milk. This drink is beneficial for pregnant women and is also used as nourishment for babies (Prentice A. 1993).

Medicinal benefits of the Baobab fruit pulp are abundant. It is used internally in cases of dysentery and diarrhea and as immunostimulant. Precise fields of application and benefits have been described in the spring 2014 issue of this magazine. (Fernsebner G. 2014)

### **Baobab Oil**

Indigenous people use Baobab oil for its soothing and moisturising benefits on the skin and hair to protect from harsh weather conditions. The oil is obtained by mechanically cold-pressing the Baobab seeds gently. This pure, unrefined, golden-yellow coloured oil has a slightly nutty scent and is high in sterols and tocopherols. The health promoting effects are abundant. Baobab oil is known to help treat skin inflammations, eczema and acne. It acts as natural anti-aging agent by rejuvenating and renewing cell membranes. Used in face and body creams or bath water it improves the elasticity of the skin. Rubbed into wet skin after a bath or shower the oil is quickly absorbed and softens the skin. It prevents sun damage on skin and in case of burn it nourishes the skin and speeds its healing. A recent study on complementary cancer treatment states that Baobab oil plays an essential role in the treatment of cancer patients after radiotherapy. It has a palliative effect on inflammations of oral and vaginal mucosa, especially for candidiasis (Bickert A. 2014). And micronised press-cake can be used as natural scrub and as ingredient for pet-food.

### Leaves

Baobab leaves are no part of the fruit but their utility value is equally high. Indigenous people eat the young leaves cooked as spinach. Dry leaves are pulverised and used for sauces and gruels. The leaves contain alpha and beta carotenes, calcium, mucilage, rubbers, uronic and glutamic acid, rhamnose, tannins and vitamin C, but no oxalic acid. Unlike spinach, Baobab leaves would be indicated for baby-food. Baobab leaves show also a remarkable antiviral activity (Selvarani, V. 2009). Micronized leaves make rich ingredients for cosmetic formulation like instant masks or skin conditioning. They are also know to help against acne and all forms of dermatitis.

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(Biomega e.U.) and Ama Mbaye (General Manager Baonane sarl)

### The Vision... ... behind Baobab

The African Savannah is home of the medicinal super fruit Baobab (Adansonia digitata). Wild collected by local people the outstanding fruit is turned into a great variety of products for the European market in the segments 'food and beverage', 'nutraceuticals' and 'natural cosmetics'.

The Austrian company Biomega e.U. has specialized in manufacturing natural products from the Baobab fruit. Founder Martin A. Späth has been inspired by the superfruit since 2003. His vision is to establish a self-sustaining production so that local communities can produce and sell autonomously. In this interview he talks about his ambitious mission.

### You have been doing business with Baobab since over 10 years. Which influences did you have?

I grew up in a brewery family. At an early age I've learnt how closely agriculture and processing industry work together. Another thing that shaped my interest at an early age was the death of Albert Schweitzer. The news were full of stories about him. That got me interested in his works. He said that it is important to act instead of talking and theorizing. That's what I liked best about his philosophy. That's the reason why I decided to become a food engineer. I always wanted to support developing countries, mainly Africa. About 10 years ago I've got involved in agricultural project with the Baobab fruit. Finally I could put my ideas into practice.



### Biomega e.U. is supporting harvesting and production in West Africa. Do you have local partners? How does the production process look like?

We are working with the Senegalese company Baonane sarl, which is owned and managed by Ama Mbaye. Ama grew up in Central Senegal as daughter of an agricultural engineer. Since her childhood she has been learning the secrets of Baobab. Her knowledge and her roots in the local culture are the key of the success of our production methods. And they are very simple: less machines, more staff.

The few machines we use are built by local people. Instead of letting machines do the work we feed on the knowledge of the community. They have been harvesting and processing these fruits since generations and they are happy to share their experiences. We can learn a lot from their traditional methods.

The local community eagerly supports our project. In the first year after setting up the plant we have been creating more than 100 jobs. Plus we have commissioned hundreds of families who collect the fruits and bring them to the plant.

### Production in Africa is different from production in Europe. Which kind of issues do you have to deal with?

The biggest challenge is bringing together traditional production methods and European quality requirements. To ensure high quality standards we have to invest in training and further education.

Another big challenge is the basic infrastructure in Senegal. Streets are in bad conditions. Power supply is not very reliable. Neither are courier services. Public authorities could be a bit more helpful. You have to have talent for improvisation and a good handful of practical experience to handle everyday business routines.

### You are collaborating with African partners. What are your personal experiences concerning this collaborations?

People in the rural areas need work. Many of them are dependent on their relatives and friends who work in the cities or abroad. This dependency often leaves them feeling helpless. They welcome the possibility of earning their own money. Rural exodus is a big issue in many parts of West Africa. The young, well-educated men and women leave the community. The small villages are left with folks who lack good education and who only speak the local language. But apart from the educational issue these workers perform remarkable physical labour. I would like to see the well-educated Senegalese to return to the rural parts to help establishing self-sustaining systems. The local economy needs them to flourish.

Support harvesting and production, paying fair prices, establishing a sustainable production line, offering training and education. Biomega e.U. is coping with a demanding task. Have you experienced throwbacks?

Implementing European production standards in rural Africa is a challenge. You need practical knowledge in many fields, like engineering, technology, microbiology. You have to collaborate with many parties, with suppliers, retailers, manufacturers. Often you meet Europeans or locals with



European education who think they know how to handle this business. It's extremely frustrating to find out that they have just been pretending. But we have learned that lesson. Biomega e.U. is now only working with partners who know what to expect when working with the locals.

### Fair Trade stands for sustainability and better trading conditions. How would you define fair? What does it really need to make fair trade fair?

Today many companies and governments still make financial profits at the expense of Africa, just as our predecessors did in the late 19th century. Unfortunately Fair Trade, also often used to make profit, has been created by Europeans and North American to silence their guilty conscience. Many consumers pay a higher price for fair trade products because they think that they help the locals.

This extra money is often spent to support the organizations of the certifiers and the attached control mechanism. Or, even worse, it distorts the market conditions in the country of production. We have no right to impose our ideas of equality on others cultures.

It's time to respect the worldview of the people who are helping to produce the goods we consume on a daily basis. The population in West-Africa doesn't need gifts, but the opportunity to do fair business. The first step is to give them a choice.