



SECTOR BRIEF UGANDA:

Nilotica shea butter



About Nilotica shea butter

The Nilotica difference

Nilotica shea butter, also known as East African shea butter or shea Nilotica, is the rare cousin of West African shea butter (INCI: *Butyrospermum Parkii*). It is made from the nuts of the Nilotica shea tree (*Vitellaria paradoxa* ssp. *Nilotica*) which only grows on the remote savannahs of Northern Uganda and South Sudan. Shea butter is a product traditionally made by hand by the women in rural villages to use as a food and cosmetics oil. Until about a decade ago, North Uganda was inaccessible due to the Lord Resistance Army (LRA) insurgency, and South Sudan is a challenging area to access even today. It is no surprise that Nilotica shea butter is still mostly unknown on the international market due to its limited supply and marketing. However, given the unique and beneficial properties of the product and the positive social impact it can create in the areas where the trees grow, it is a very valuable product.

Nilotica shea butter is naturally soft and creamy in texture. It has an ivory yellow colour and a subtle sweet chocolatey scent making it easy to use both pure and as a key ingredient in a wide variety of skincare and cosmetics products.

Name: Nilotica shea butter

Consistency: Balm-to-oil

Colour: Ivory white to buttery yellow

Scent: Mild sweet chocolatey

West African shea on the other hand is often hard, with a waxy consistency and a strong scent which makes it difficult to use in high concentrations in cosmetic products. The difference in texture of Nilotica is due to the up to 30% higher oil (oleic acid) contents compared to West African shea butter. The resulting much lower melting point gives it a buttery consistency at room temperature, and the moment it touches the skin it melts into oil. Hence it is often described as balm-to-oil moisturizer.

Comparison of product specifications		
Characteristic	Nilotica shea butter	West African shea butter
Consistency	Buttery soft at 25°C	Hard – Crumbly to waxy
Colour	Cream to pale yellow coloured soft, creamy butter	White to ivory yellow
Scent	Mild characteristic	Characteristic
Melting point	26 – 32°C	34 – 44°C
Refractive Index (40°C)	~ 1.47	1.460 – 1.475
Saponification Value	165 – 195	170 – 200
Unsaponifiable Matter	2%	≥ 4%

Source: DLG Naturals; TDS Nilotica shea butter, Praan naturals and TDS shea butter

Production process

Once a year, from January to March, the shea trees flower and grow fist-sized shea fruits. When they are ripe between May and July, they fall to the ground where they are gathered by hand by the harvesters, mostly women. After collecting the fruits, they remove the flesh as soon as possible using only the glossy shea nut. After drying the whole nut, the women crack the outer shell and take out the kernels. These are sundried again and then ready for oil production.

Nilotica shea butter is still very much a small-scale industry in Uganda where artisan production methods are highly valued. Chemical extraction is currently not used by any of the producers. The 3 following extraction methods are applied:

Traditional extraction

The shea kernels are mixed with ashes and roasted over an open wood fire until they are grey and brittle. Then they are pounded into a fine powder before being mixed with water and boiled for several hours before being left to cool. Once cooled the oil will float on top and is skimmed off. This oil is brownish in colour and has a strong nutty smell and taste. In Northern Uganda it is used both for skincare for babies and as cooking oil or food condiment. However, the cosmetic use is limited due to the strong scent.

Mechanical extraction

The shea kernels are roasted before being ground into a coarse powder. Then this powder is fed into a mechanical press which is manually operated to apply pressure to the powder to squeeze out the oil. This oil has a mild brown colour and a light nutty scent. This butter is mainly used for cosmetics in the national and regional markets.

Healing properties include

- Linoleic, palmitic, stearic and oleic fatty acids
- Vitamins A, E and K
- Allantoin

SOURCE: LXMI

Ex-warehouse Ugandan Pricing

Cold pressed Nilotica shea butter

€7,38 to €15,60 per kg

Mechanically pressed Nilotica shea butter

€4,90 to €12,30 per kg

Traditional hot pressed Nilotica shea butter

€2,50 to €9 per kg

Price range only for indicative purposes.

Prices vary by supplier, quantity and throughout the year.

Cold press extraction

The whole nuts are fed straight into a cold press. They are not roasted or boiled. The cold press squeezes out the oil. The resulting oil is golden in colour, and once settled down in a bucket, it turns into an ivory white butter. Since the nuts have not been heated and the temperature during the entire process does not exceed 70°C, the unique bio-active fraction remains intact. On the international market, this is the most common type and is mainly used for cosmetics, either pure or as an ingredient.

Refined or unrefined?

The above methods all yield unrefined, raw, Nilotica shea butter. After extraction it is possible to refine the shea butter to remove the colour and scent and yield a uniform, scentless, white Nilotica shea butter. However, due to the small volumes produced and the loss in healing properties incurred during this process (up to 75%) this is not currently done in Uganda.

Quality and certifications

Quality standards

There are three quality standards, two international and one Ugandan, for shea butter as shown below. However, there is none that is specific to Nilotica shea butter that underlines and highlights the differences of the two shea butters.

The quality of finished Nilotica shea butter is determined by two factors:

- contamination or purity and
- the actual oil quality.

Oil quality is assessed by the parameters listed below. Contamination is usually determined by measuring the amount of lead, mercury and pesticides present in the shea butter. As all quality

standards mentioned above are not mandatory standards, they provide guidance but are not mandated. Therefore, products may differ from these standards. It is recommended to always ask for a Technical Data Sheet (TDS) and Material Safety Data Sheet (MSDS) to understand the specifications of the product provided by the producer and supplier and to check if these are in line with the needs.

To assess the quality of both unrefined Nilotica shea butter and unrefined West African shea butter the following parameters are generally used (UNBS 1931:2019, FAO & WHO, CXS 325-R2017).

Characteristic	Unrefined shea butter
Free Fatty Acids	0,5 % oleic
Peroxide Value	5,0 meq O ² /kg
Moisture	1 %
Acid Value	1 mgKOH/g

All the different processing methods set out below can yield Nilotica shea butter that meets the above-mentioned quality criteria.

Fatty acid profile		
Characteristic	Nilotica shea butter	West African shea butter
Myristic Acid – 14:0	< 1 %	< 1 %
Colour	2 – 8 %	3 – 8 %
Scent	21 – 38 %	36 – 50 %
Melting point	47 – 67 %	40 – 50 %
Refractive Index (40°C)	4 – 9 %	4 – 8 %

Source: DLG Naturals; TDS Nilotica shea butter, Praan naturals and TDS shea butter

Ensuring quality in processing

Throughout the production process there are several challenges that heavily influence the quality of the finished product.

1. Post-harvest handling

The shea nuts should be gathered from the forest floor after they have fallen. They cannot be picked from the tree. If they are still on the tree the fruits are not yet ripe and will not yield high quality shea butter. This requires gathering them by hand which is also the only way to pick up the fruits that have fallen in tall grasses and other bushes. Afterwards, the nuts must be immediately washed and de-pulped. This is again done by hand. The fruit flesh is very sweet and used for making sweets and lemonade. It is mainly given as treats to children, and sometimes also sold for extra income. In addition, the fruit flesh can be dried for later consumption.

Once the women have the de-pulped glossy shea nuts, they are dried for the first time in the sun. For the best quality this must be done on a clean surface area, not on the bare ground, to avoid external contamination by dust, small stones, leaves and other material. Sometimes, special drying platforms are built out of concrete or are constructed with sticks and an iron sheet, but more often a simple tarpaulin is used for this process.

After drying, the nuts are cracked to extract the kernel that is inside. At this time, the first grading is done. Dark coloured, mouldy or otherwise infested nuts are immediately discarded to avoid contaminating the other nuts. Next they are dried again for about one week on a clean surface to reduce the moisture content in the kernels to below 0.5%. This is essential to ensure a long shelf life of the nuts and to avoid moisture in the oil that will make it go rancid. The moisture can be checked with a moisture meter or by assessing it by pressing and breaking the nuts, as is done more often. When the moisture content is too high, the nuts tend to be soft and very light in colour. After drying, the nuts are sorted again to take out any nut of lesser quality.

2. Storage

After properly sorting the shea nuts, they must be stored in ginny/ jute sacks in a clean, dark and dry environment, free from rodents and other infestations. If this is done properly, nuts can be stored for up to 1 year without loss of quality. However, nowadays the most common storage bags are made of woven polypropylene. This is problematic because the material is not breathable. As a result, these bags retain any moisture and heat that might be present in the nuts and increase the chances of the nuts going bad quickly.

Once stored, the shea nuts need to be inspected at least once a month to ensure that they are not rotting or (becoming) infested with bugs.

3. Oil extraction and packaging

As Nilotica shea butter is mostly used on the international market as a cosmetics ingredient, it is always recommended to ensure that production is done in a food grade production environment with relevant quality control measures in place. Depending on the type of production method as specified earlier, this may or may not be possible to a certain extent. However, it is important to know the production environment and standards that a producer maintains. Even without a Good Manufacturing Practice, ISO or HACCP certification, the producer should always have a documented quality management system in place. To-date, no information is available on the extent to which this is applied within the industry in Uganda.

The relevant quality standards are

Institution	Standard reference	Covers
UNBS (Ugandan National Bureau for Standards)	US 1931:2019 shea butter for cosmetic industry specification	West African and Nilotica shea butter
African Organisation for Standardisation	ARS SHEA-B (2011)	West African shea butter
Food and Agriculture Organisation & World Health Organisation	REGIONAL STANDARD FOR UNREFINED SHEA BUTTER CXS 325R-2017	Unrefined West African shea butter



Filling the shea butter into clean, intact packaging must be done immediately after production to avoid any external contamination. There are several types of packaging available, ranging from small jars and pouches for small retail sizes, to large buckets and jerry cans for bulk sales. Long-term packaging should block out light and oxygen as both can make Nilotica shea butter go rancid. In addition, due to the soft consistency of Nilotica shea butter and the low melting point, it requires oil-proof packaging.

Voluntary certifications

As mentioned above, currently there are no mandatory certifications that apply to Nilotica shea butter. However, there are many optional voluntary certifications available to highlight specific aspects of its origin and production process to the customers. This includes certifications such as organic, natural, wild harvest, fair trade and ethically sourced. Some of these labels are protected, including organic and fair trade. This means that the term can only be used by the supplier if they are audited and found to comply with the relevant standard by the accredited certification body. Currently only one company in Uganda is certified organic and can therefore claim this label.

The need for external validation is not always well understood by small scale companies in Uganda, even though they may market their company or products as “organic”. When asked for the supporting documentation, they may not always have it, since they mistook the term “organic” to be the same as “natural”. Therefore, it is worth checking their actual accreditation and corresponding documents with the supplier and the certifying body.

The reverse case might also be true. The cost of external certification is extremely high in Uganda, especially for small companies. They may in practice abide by and even exceed for example fair trade principles. However, because they cannot afford the costs, they are not able to obtain the certification. Therefore, even if a producer is not certified, it is important to understand their actual operating practices. Even though it might not be possible to use the term “fair trade” because that is a trademarked label, an alternative term such as “ethically and sustainably sourced” may convey the same message to customers without the need for expensive certification.

Regulatory guidelines

Exports from Uganda

Normal export procedures for goods and commodities apply to the shea sector. As such, exports of Nilotica shea butter and Nilotica shea nuts from Uganda are not restricted, and an export license is not needed. A Certificate of Origin can be applied for by the exporter if desired.

Most shipping of Nilotica shea products from Uganda is done by airfreight. Since Uganda is a landlocked country, it has no harbour, and all sea freight is done through either Mombasa or Dar es Salaam. Full container loads (about 15 tonnes depending on packaging method) take about 3 to 4 weeks to reach Rotterdam. Shipments that amount to less than a container load are consolidated in the port with other goods that are going to the same destination. This might create a delay of several months. Airfreight can usually be delivered within a week.

Imports into the EU

Depending on how the shea butter is imported into the EU, specific regulations apply. There are two options:

1. If it is sold and bought as a cosmetics product and is packaged in finished retail units, the product is categorised as a finished cosmetics product. In this case it must comply with the Cosmetics Regulation 1223/2009 which covers many different aspects ranging from product specifications and the person in charge to stability testing and labelling requirements. In addition, there may be country-specific requirements that apply.
2. If the product is used as a cosmetics ingredient it is classified as a vegetable oil and falls under the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulation which regulates chemical substances in the EU. However, naturally occurring and chemically unmodified substances, such as unrefined vegetable oils are exempt from registration and can be imported freely as per importer requirements.

It must be kept in mind that, depending on the value of the goods, import taxes and customs duties may apply. Consequently, as opposed to buying from a local retailer, there may be additional charges for shipping, customs and clearance on an order from Uganda. It is recommended to ensure that the supplier be familiar with INCO terms which specify who is responsible for paying for and managing the shipment, insurance, documentation, customs clearance and other logistical activities.

Stakeholders in the Nilotica sector

The Nilotica shea sector has been an area of interest for Non-Governmental Organisations (NGOs) since the LRA insurgency ended, as it was recognised as a high value income opportunity

for women in Northern Uganda. Increasingly this has also been acknowledged by the government. A government policy is being set up to encourage the development of the sector with the objective of generating additional income for rural women, increasing employment in rural and urban areas for the poor and generating foreign exchange. As a result, there have recently been multistakeholder initiatives that have focused on the sector, including the Kidepo Critical Landscape project that was executed under the Uganda Export Promotion Board (UEPB), which resulted in the development of the UNBS standards.

Stakeholders involved in the sector include:

- Ministry of Agriculture and Fisheries; www.agriculture.go.ug
- Ministry of Trade; www.mtic.go.ug
- Uganda National Bureau of Standards (UNBS); www.unbs.go.ug
- Uganda Export Promotion Board (UEPB); www.ugandaexports.go.ug
- Ugandan research institutes, like Ngetta Zonal Agricultural Research and Development Institute in Lira; www.naro.go.ug
- many NGOs and international organisations who support the development of the shea sector
- producers, processors, harvester groups and cooperatives and
- supporting stakeholders such as private laboratories and business incubators.

Although developments are ongoing, there is currently no united platform or association that brings together all these stakeholders under one umbrella.



Business opportunities for European Enterprises

Given the growing maturity of the Nilotica shea butter sector in Uganda, there is a wide range of business opportunities for European enterprises. They include:

- Import Nilotica shea butter as a cosmetics ingredient
- Import Nilotica shea butter as a finished cosmetics product under the producer's label
- Import Nilotica shea butter as a finished product under own label
- Develop specialised, certified organic and fair-trade products for imports to Europe
- Develop fully branded Nilotica based products for the European market
- Sourcing Nilotica shea butter as a luxurious food oil
- Develop a dedicated, fully traceable supply chain to ensure a long term, high quality reliable supply of Nilotica shea butter
- Improve production facilities as part of a long-term partnership with a specific supplier to ensure a long-term high quality reliable supply of Nilotica shea butter
- Sourcing Nilotica shea butter from specific biosphere areas

Best Practice

GIZ Promoting Rural Development (PRUDEV) programme is a bilateral programme of the Ministry of Local Government on behalf of the Government of Uganda and the Federal Ministry for Economic Cooperation and Development of the Federal Republic of Germany. The programme follows an actors-oriented approach to improve the agriculture-based development of the rural economy in selected districts of Northern Uganda.

The programme aims to promote the processing and marketing of Nilotica produced by supporting stakeholders in the shea sector to create market linkages, to match better market demand and supply and to improve the quality of the local production. Conservation and planting of shea trees is another area of support which is important for ensuring a continuous supply of Nilotica shea butter in the future. As a result, local shea harvesters and processors generate increased income out of shea produces for now and the future.

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Sources and useful links:

- Ministry of Agriculture and Fisheries www.agriculture.go.ug
- Ministry of Trade www.mtic.go.ug
- Uganda National Bureau of Standards (UNBS) www.unbs.go.ug
- Uganda Export Promotion Board (UEPB) www.ugandaexports.go.ug
- Ngetta Zonal Agricultural Research and Development Institute www.naro.go.ug

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“New Markets – New Opportunities: A Guide for German Companies” is supported by the Federal Ministry for Economic Cooperation and Development (BMZ). All issues are published on the websites of GTAI and GIZ. You can find selected issues also at

www.bmz.de/bsfd



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