BURGESS ORIGIN CO

Verified Nilotica Shea Butter · Northern Uganda

Verifying the Source

Supply Chain Documentation Standards and The Case for Traceable Nilotica Shea Butter in the U.S. Cosmetic Ingredient Market

Nicholas Burgess

Founder & Managing Director, Burgess Origin Co

Northern Virginia, United States

May 2026

EXECUTIVE BRIEF

This document contains primary source laboratory documentation, Uganda National Bureau of Standards government test reports, not previously published in U.S. institutional research literature.

01 — THE PROBLEM

You Are Paying a Premium You Cannot Verify

SPECIES DISTINCTION, VERIFICATION GAP, AND COMMERCIAL EXPOSURE

> ***For:*** *Cosmetic formulators, ingredient procurement directors, federal and state contracting officers, and institutional researchers evaluating Nilotica shea butter supply chains.*

The U.S. cosmetic ingredient market pays a documented 2–5× premium for Vitellaria paradoxa ssp. nilotica (Nilotica shea butter) from East/Central Africa over West African ssp. paradoxa, driven by its distinct fatty acid profile and superior formulation performance. Yet no systematic documentation standard currently available to U.S. ingredient buyers can verify that what they are purchasing is actually Nilotica.

2–5×	57% vs. 47%	25–30°C vs. 34–38°C
Price premium paid for Nilotica vs. West African *paradoxa*	Oleic acid mean: Uganda Nilotica vs. West African *paradoxa*, a reversal of fatty acid dominance	Melting point: Nilotica vs. West African shea, different ingredients, different formulation behavior
CSJ Uganda Shea Market Study (2024)	*CSJ (2024), Table 1*	*CSJ (2024)*

POSITION OF ORGANIC CERTIFICATION

Organic and fair-trade certifications can improve access and margins in certain channels, and both represent real commitments that some buyers require. They do not, however, explain the documented 2–5× Nilotica price premium, and they do not verify subspecies identity. The premium is driven by chemistry: the oleic-dominant fatty acid profile (57–65% oleic acid), the lower melting point (25–30°C), and the formulation performance that follows, confirmed through UNBS government laboratory reports and independent GC fatty acid analysis. In current practice, a certified West African *paradoxa* and a certified Nilotica carry identical organic marks, because certification schemes do not resolve the subspecies question. Organic and fair-trade therefore rank below UNBS reports and GC analysis in the full white paper's evidentiary hierarchy. For the U.S. buyers this brief addresses, organic is a secondary, optional layer on top of a verification-first standard.

WHY THE DISTINCTION MATTERS TO FORMULATORS

Nilotica and West African *paradoxa* are not regional variants of the same ingredient. Nilotica is oleic-dominant (oleic 57–65%, stearic 30–32%); West African *paradoxa* is stearic-dominant (oleic 43–47%, stearic 40–46%). These ranges do not overlap, they are diagnostic. This produces a lower melting point, superior skin penetration, and distinct formulation behavior that cannot be corrected by substitution. A formulator who has characterized a finished product

around verified Nilotica cannot simply swap in West African *paradoxa* without reformulation, yet both carry the same INCI designation. The ingredient labeling system does not make the distinction. Your documentation system must.

TWO ADULTERATION PATTERNS YOU CANNOT DETECT WITHOUT DOCUMENTATION

The 2–5× Nilotica price premium creates two distinct economic incentives to deceive, both of which are invisible without laboratory documentation.

Subspecies and species substitution. West African *Vitellaria paradoxa* ssp. *paradoxa* sold as "Nilotica" is the primary risk, it shares the same INCI designation and is visually indistinguishable from verified Nilotica. A second, less discussed species-level risk involves *Pentadesma butyracea* (kpangnan), a distinct botanical species native to humid West and West-Central African forest zones (Benin, Ghana, Nigeria, Cameroon, and others). Its fat yields a broadly shea-like fatty acid profile and appears informally in trade as "yellow shea" or undifferentiated "African butter." Its presence in a supply chain without disclosure is a species-level substitution that affects formulation performance and the defensibility of any purity or origin claim.

Composition stretching with generic fats. Genuine shea butter (of any subspecies or species origin) is cut with low-cost fats and fillers: hydrogenated vegetable oils, animal tallow, starches, fruit pulps, or synthetic waxes. The product is still marketed as "shea butter" with no change in INCI name or label language. Supplier-produced COAs do not reliably detect this because testing is typically conducted on a selected sample, not a representative draw from the shipment batch. Both adulteration patterns are analytically visible through UNBS batch-specific chemistry reports and independent GC fatty acid analysis. Neither is detectable through certifications, MSDS documents, or supplier representations alone.

LEGAL EXPOSURE: FTC ACT AND MOCRA

The FTC Act requires substantiation for claims at the time they are made. A brand marketing a product as "Nilotica shea butter" must hold competent and reliable evidence of subspecies identity at the moment the claim appears in commerce. If the ingredient is West African *paradoxa* and no species verification documentation exists, the claim is unsubstantiated regardless of intent. MoCRA further requires documented ingredient safety substantiation, a supply chain without government laboratory testing records represents a compliance gap your safety file cannot close with a supplier-produced COA.

RISK TO INSUREDS: MISLABELING, FALSE ADVERTISING, AND MOCRA

Undocumented Nilotica claims expose brands on three fronts simultaneously. First, mislabeling or failure to conform to advertised composition is a classic product liability trigger, and MoCRA's expanded recordkeeping and recall framework increases the financial stakes when ingredient identity cannot be proven. Second, coverage for "advertising injury" and false-advertising claims under standard liability policies is often limited or excluded where the allegation is failure of the product to meet advertised quality, leaving brands to fund their own defense if a competitor or regulator challenges "100% Nilotica" claims. Third, weak ingredient documentation and batch-level traceability complicate both claims handling and renewal underwriting, as insurers increasingly require credible safety substantiation and traceable supply chains. A supplier that can produce government laboratory reports, method-specified GC fatty acid analysis, and batch-level traceability reduces not only regulatory risk for its buyers but also the likelihood of insurance coverage disputes when something goes wrong.

ENFORCEMENT TRAJECTORY

Regulatory enforcement is already moving in the direction this documentation standard anticipates. The FTC's treatment of composition claims and the FDA's new records-access and safety-substantiation powers under MoCRA both point toward a market where ingredient-level origin claims must be supported by laboratory data and traceable records rather than marketing language alone. There is, at present, no Codex or U.S. federal identity standard for Nilotica shea specifically, but the evidentiary tools required to scrutinize Nilotica claims already exist. The Originilotica standard aligns a Nilotica supply chain with the level of documentation that future enforcement trends make increasingly non-optional.

02 — THE GAP

What Current Supplier Documentation Cannot Tell You

FIVE DOCUMENTATION FAILURES COMMON IN THE U.S. NILOTICA MARKET

The only mechanism by which Nilotica identity can be confirmed is gas chromatography fatty acid analysis using AOCS Ce 1h-05, compared against Nilotica-specific reference ranges. That analysis is rarely specified correctly, seldom buyer-commissioned, and almost never linked to independently verifiable government documentation. The result is a documentation ecosystem where most "Nilotica" COAs cannot, in fact, prove subspecies identity. The following patterns appear routinely in supplier documentation currently in circulation in the U.S. market.

RED FLAG 1: "COLD PRESSED" CLAIMS

No current Ugandan shea extraction method qualifies as cold pressed. The CSJ Uganda Shea Market Study (2024) states explicitly that all processing temperatures exceed 50°C; cold pressing requires sub-49°C. A supplier making a cold pressed claim cannot substantiate it under documented Ugandan processing conditions. The correct designation is "mechanically expeller pressed."

RED FLAG 2: WRONG GC METHOD (AOCS CE 1J-07)

Ce 1j-07 is the ruminant fat method, designed for dairy butter, lard, and tallow. It is not valid for vegetable fat analysis. A supplier document citing Ce 1j-07 has applied the wrong method, results cannot be compared against Nilotica reference ranges. The correct specification is AOCS Ce 1h-05 for vegetable and non-ruminant animal fats.

RED FLAG 3: SAPONIFICATION VALUE IN WRONG UNITS

Saponification value is universally expressed in mgKOH/g (Nilotica range: 170–190 mgKOH/g). A document listing this parameter in mg/kg is dimensionally incorrect and cannot be compared against any published standard. This error is a reliable signal of template copying rather than original laboratory analysis.

RED FLAG 4: FATTY ACID PROFILE OUTSIDE NILOTICA RANGES

Documented Nilotica reference ranges: oleic acid 57–65%, stearic acid 30–32% (CBI, 2026). Any GC result showing stearic above 36% or oleic below 55% is inconsistent with *Vitellaria paradoxa* ssp. *nilotica*. These ranges do not overlap with West African *paradoxa*, a correctly performed GC analysis provides a definitive determination.

RED FLAG 5: NO GOVERNMENT SAMPLE NUMBER

A UNBS laboratory report without a government-assigned sample number (format: L/XXXX/YYYYMC) is not independently verifiable. Any claim of UNBS testing should be cross-referenced directly with UNBS Mbale Regional Laboratory. A supplier whose documentation cannot survive direct institutional verification is providing a document that resembles verified documentation, not verified documentation itself.

THE INSTITUTIONAL ASYMMETRY

A Dutch ingredient buyer and a U.S. ingredient buyer compete in the same Nilotica shea market. The Dutch buyer has a 2026 government market intelligence report (CBI, Netherlands Ministry of Foreign Affairs) specifying what to look for, what to pay, and how to verify it. No U.S. government agency, academic institution, or industry body has produced an equivalent document. The U.S. buyer is working with marketing copy.

GEOGRAPHIC SCOPE OF THIS STANDARD

Although this brief is written from the perspective of U.S. ingredient buyers and brands, the documentation framework it describes is technically applicable wherever Nilotica shea is traded. European buyers already have a stronger informational baseline through EU development agency reports, but that does not replace the need for batch-linked, subspecies-verified documentation. The two-laboratory model and Nilotica acceptance criteria can be adopted by buyers in either market without modification.

ANALYTICAL METHODS: ORIGINILOTICA CORE PANEL

Analytical verification for Originilotica batches is performed by an independent laboratory operating under ISO/IEC 17025:2017 accreditation for oils and fats. Fatty acid composition is determined using an ISO/IEC 17025:2017-accredited GC-FAME procedure validated for accurate quantification of C18:0 (stearic acid) and C18:1n9 (oleic acid) at concentrations typical of shea butter. In addition to fatty acid composition, each batch is tested for acid value, peroxide value, iodine value, and saponification value using accredited procedures appropriate for vegetable oils and fats. Together, these five parameters provide a consistent analytical fingerprint of the Nilotica shea matrix and allow direct comparison to published reference ranges.

All five results are reported on a single Certificate of Analysis per sample. Every CoA is linked to the corresponding Originilotica batch through a Burgess Origin Co batch ID and any applicable regulatory or national reference numbers. Analytical records and underlying raw data are retained by the accredited laboratory, with Burgess Origin Co maintaining Certificates of Analysis and acting as the primary retrieval point for Originilotica batch documentation, supporting traceability, auditability, and supply-chain documentation across every shipment.

> ***Originilotica Phase Model:*** *Phase 1, now implemented, anchors verification in UNBS government laboratory reports and independent GC-FAME fatty acid analysis at the harvest-batch level. Phase 2, under active implementation with supplier partners, extends cooperative-level lot mapping and incentivized documentation upstream from the processing facility. Phase 2 is not yet a universal condition of all batches.*

03 — THE STANDARD

What Verified Supply Chain Documentation Requires

THE TWO-LABORATORY CHAIN AND THE ORIGINILOTICA DOCUMENTATION STANDARD

WHY GOVERNMENT TESTING IS DIFFERENT FROM A COA

A supplier-produced Certificate of Analysis runs from the supplier outward, the document is, in effect, self-graded. Uganda National Bureau of Standards (UNBS) testing operates differently: the client submits the sample, UNBS applies the standard, and the result is assigned a government sample number that is non-transferable, independently verifiable, and permanently on record. A COA can be reprinted, redated, or reattached to a different batch. A UNBS sample number cannot.

PRIMARY SOURCE DOCUMENTATION, VERIFIED NORTHERN UGANDA SUPPLY CHAIN

REPORT NO.	TYPE	SAMPLE NO.	COMPLETED	RESULT
FA/2025/13316	Chemistry	L/7202/2025MC	Dec 12, 2025	**FAIL: Acid Value 17.7 mgKOH/g (max 15)**
ML/2025/08149	Microbiology	L/7202/2025MC	Dec 15, 2025	**PASS: All 6 parameters**
FA/2026/00807	Chem Retest	L/0157/2026C	Jan 29, 2026	**PASS: 1.2 mgKOH/g (93% reduction)**

UNBS Laboratory Documentation Package, Northern Uganda supplier, January 2026 verified batch. Standard: US EAS 967-1:2022. All report and sample numbers independently verifiable: UNBS Mbale Regional Laboratory, +256 417 333 250.

The December 2025 chemistry failure was batch-specific and corrected. The January 2026 retest result of 1.2 mgKOH/g places the verified batch at the premium end of the quality range. The microbiology panel passed all six parameters with complete absence of *Pseudomonas aeruginosa* and *Staphylococcus aureus*. Most suppliers would not disclose a failed test result. The complete arc (failure, correction, independent verification) is precisely what traceable sourcing requires.

DOCUMENTATION HIERARCHY, WHAT TO REQUIRE

TIER	DOCUMENT	WHAT IT ESTABLISHES	LIMITATION
1	UNBS government laboratory report (chemistry + microbiology)	Origin, acid value, peroxide value, moisture, 6 microbiology parameters. Government-signed, sample number independently verifiable with UNBS.	Does not include GC fatty acid composition, subspecies identity not confirmed by UNBS report alone.
2	GC fatty acid analysis, AOCS Ce 1h-05	Subspecies identity confirmed: oleic 57–65%, stearic 30–32% = Nilotica. Commission independently from an AOCS-certified laboratory.	Must be buyer-commissioned, not accepted from the supplier. Specify Ce 1h-05 explicitly; reject Ce 1j-07.
3	Organic or Fair-Trade certification	Agricultural practice, sustainable harvesting, no prohibited inputs, social standards.	Does not verify subspecies identity. A certified *paradoxa* product carries identical certification to certified Nilotica.
4	Supplier-produced COA	Supplier representation of product parameters, may cite third-party laboratory.	No government involvement. Incentive structure favors passing results. Cannot be independently cross-referenced.
5	Material Safety Data Sheet (MSDS)	Physical and chemical properties, handling and storage guidance.	Rarely independently verified. Check: saponification value must be in mgKOH/g (not mg/kg); melting point 25–30°C for Nilotica.

THE ORIGINILOTICA STANDARD, VERSION 1.0

Originilotica is the documentation standard Burgess Origin Co applies to verified Ugandan Nilotica shea butter. It requires a three-layer chain: community-level sourcing documentation under a formal MoU with a voluntary association of over 8,500 shea farmers establishes upstream traceability; UNBS government chemistry and microbiology reports establish origin and quality against EAS 967-1:2022; and independent GC fatty acid analysis using AOCS Ce 1h-05, commissioned by the buyer from a U.S. ISO 17025 accredited laboratory, confirms subspecies identity against Nilotica reference ranges (oleic 57–65%, stearic 30–32%; CBI, 2026), ranges that do not overlap with West African *paradoxa* (oleic 43–47%, stearic 40–46%; CSJ, 2024). All three nodes are independently confirmable.

04 — THE SOLUTION

Verified Nilotica Supply, Already Built

BURGESS ORIGIN CO | SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS | NORTHERN VIRGINIA

Burgess Origin Co holds primary source documentation on a verified Northern Uganda Nilotica shea supply chain that no European research institution, U.S. academic, or competing importer has published: UNBS government laboratory reports with independently verifiable sample numbers, coupled with buyer-commissioned GC fatty acid analysis to AOCS Ce 1h-05 from a U.S. ISO 17025 accredited laboratory. Together, they form the first fully documented Nilotica supply chain built to an institutional standard rather than a marketing claim.

3	6/6	93%
UNBS government laboratory reports, chemistry, microbiology, retest	Microbiology parameters passed, all pathogens not detected under ISO methods	Acid value reduction from batch correction, Dec 2025 to Jan 2026 verified supply
FA/2025/13316 · ML/2025/08149 · FA/2026/00807	*UNBS ML/2025/08149, Dec 2025*	*FA/2025/13316 → FA/2026/00807*

WHAT BOC PROVIDES

Verified Nilotica shea butter with full Originilotica v1.0 documentation: UNBS chemistry and microbiology reports with independently verifiable government sample numbers; GC fatty acid analysis to AOCS Ce 1h-05 commissioned from a U.S. ISO 17025 accredited laboratory; and batch-level traceability anchored in a formal Memorandum of Understanding with a voluntary association representing over 8,500 shea farmers in Northern Uganda. That MoU mandates documented purchase records, on-site quality control at collection centers, and closed batch-segregated processing, so traceability extends from community harvest through a defined processing run to a named set of analytical results. Burgess Origin Co is a Service-Disabled Veteran-Owned Small Business, eligible for VA Federal Supply Schedule, DAPA, and ECAT procurement vehicles. Uganda is a TAA-designated Least Developed Country under FAR 52.225-5, making BOC supply TAA-compliant for federal procurement. Material sourced from major West African shea origins such as Ghana and Nigeria does not carry the same designation, a structural compliance distinction that favors verified Ugandan Nilotica in the federal lane.

THE COMPETITIVE POSITION

The documentation architecture described in this brief, UNBS government reports with independently verifiable sample numbers, GC analysis to AOCS Ce 1h-05, and a two-laboratory chain across two jurisdictions, constitutes the first U.S. institutional documentation of a verified Nilotica shea butter supply chain. It does not merely exceed current market practice; it defines the benchmark against which subsequent entrants will be measured.

SCOPE AND LIMITATIONS

This brief addresses the technical, analytical, and documentation requirements for verified Nilotica shea butter. It does not prescribe how buyers, distributors, or laboratories should structure their commercial relationships, nor does it address licensing or exclusivity arrangements in the United States, the European Union, or Uganda. Those are commercial strategy questions that sit on top of, but are separate from, the verification architecture described here.

NEXT STEPS, REQUEST THE ORIGINILOTICA DOCUMENTATION PACKAGE

U.S. cosmetic formulators, ingredient buyers, and federal or state procurement officers seeking verified Nilotica shea butter supply can request a no-obligation documentation package including:

- Complete UNBS chemistry and microbiology reports with government sample numbers
- GC fatty acid analysis to AOCS Ce 1h-05 from a U.S. ISO 17025 accredited laboratory
- Batch-level traceability summary and current production capacity and lead times

RISK-CONTROLLED ENGAGEMENT

No minimum order for initial verification samples. Buyers may independently confirm UNBS sample numbers directly with UNBS Mbale Regional Laboratory before committing to volume contracts. Standard response time for documentation requests is two business days.

CONTACT BURGESS ORIGIN CO

Nicholas Burgess, Founder & Managing Director
Service-Disabled Veteran-Owned Small Business · Northern Virginia, United States
info@burgessorigin.com · burgessorigin.com