



Tropentag 2026

September 16–18, 2026
Hybrid Conference | Bonn, Germany

“Towards multi-functional
agro-ecosystems promoting
climate resilient futures”



HOW IT IS EATEN TODAY

- Oze seeds are typically roasted and consumed as a snack in southeastern Nigeria.



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**Harnessing neglected species for climate-resilient food systems:
Domestication potential of *Bosqueia angolensis* in Nigeria**

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BACKGROUND

- Climate-resilient food systems require biodiversity, nutrition and sustainable livelihoods that thrive in adverse environments.
- Neglected and underutilized species (NUS) are critical yet underexploited components of such systems.
- *Bosqueia angolensis* (Oze seed) is a native forest species in West Africa, known for its thick, edible kernel and high nutritional value.
- It has not been widely adopted in commercial agriculture and remains in the pre-domestication phase with minimal use.
- Domestication of *B. angolensis* supports WEF Nexus objectives for food & nutrition security and sustainable natural resource management.

PRE-DOMESTICATION PHASE – DEFINED

The pre-domestication phase refers to the stage where wild species are systematically studied, collected, characterized and evaluated for their useful traits and domestication potential before active breeding and cultivation begins.



The domestication of *B. angolensis* supports WEF Nexus objectives by strengthening food and nutrition security and encouraging sustainable natural resource management.

DOMESTICATION STATUS, CONSTRAINTS & PATHWAY

CURRENT STATUS



Wild and underutilized native forest species.



Pre-domestication phase: wild harvesting with minimal use.

MAJOR CONSTRAINTS



- Absence of propagation protocols
- Ecological reliance on forest habitat
- Ineffective market and policy support for NUS
- Low level of awareness and research



TOWARDS DOMESTICATION

- 1 Germplasm collection & characterization
- 2 Propagation & nursery development
- 3 On-farm trials & management practices
- 4 Value addition & product development
- 5 Market creation & policy support

NUTRITIONAL POTENTIAL & CONTRIBUTION

KEY NUTRITIONAL STRENGTHS

- ✓ High protein value
- ✓ Good essential amino acid composition
- ✓ High iron and zinc content

CONTRIBUTES TO...

- ✓ Counters energy-protein malnutrition & hidden hunger
- ✓ Enhances dietary diversity
- ✓ Improves nutrition security
- ✓ Supports healthy communities

INTEGRATION POTENTIAL IN AGRO-ECOSYSTEMS

Well-suited for smallholder agroforestry systems in southeastern Nigeria.

- ✓ Compatible with crops & livestock
- ✓ Enhances biodiversity conservation
- ✓ Improves soil cover & microclimate
- ✓ Supports sustainable land use & livelihoods

CONCLUSION – TAKE-HOME MESSAGE



Bosqueia angolensis has excellent prospects of becoming a part of multi-purpose agro-ecosystems, especially in smallholder agroforestry systems in southeastern Nigeria. Domestication of this tree in West African agro-ecosystems would potentially increase dietary diversity, enhance rural livelihoods and contribute to biodiversity. Ultimately, the integration of *B. angolensis* serves as a cornerstone for building ecological resilience and self-sustaining food futures in West Africa.

BENEFITS & IMPACT



Increases dietary diversity and nutrition security



Enhances rural livelihoods and income opportunities



Conserves biodiversity and forest resources



Builds ecological resilience and food security

RELEVANCE TO CLIMATE-RESILIENT FOOD SYSTEMS



Thrives in forest environments and adapts to adverse conditions



A native, climate-smart species



Supports long-term sustainability of agro-ecosystems and livelihoods

