ROK varieties: High Yielding Climate Resilient Rice Varieties for Africa

Climate resilient ROK varieties for enhanced rice productivity and nutrition

This technology is a group of improved rice varieties, ROK 42 and ROK 43, combining higher yield potential, early maturity, tolerance to flooding or drought, and good grain quality. These traits offer growers opportunities to increase marketable production and manage production risks, while supporting processing and sales through high milling recovery and ROK 43's aromatic grains.



Africa Rice Center
Zenna Negussie

This technology is pre-validated.

9·9 Scaling readiness: idea maturity 9/9; level of use9/9

1076 USD	1320 USD	244 USD	23 %
Cost per hectare	Revenue per hectare	Net income per hectare	ROI per hectare

IP
Open source / open access

Problem

- **Low productivity:** Low yields limit marketable surplus and revenue per hectare.
- **Production risk:** Drought, flooding and iron toxicity make harvest volumes and business returns uncertain.
- **Crop losses:** Pests, diseases and lodging reduce recoverable grain and sales potential.
- **Unreliable supply:** Fluctuating harvests disrupt procurement, processing volumes and consistent market supply.

Solution

- **Sales potential:** Reported yield gains of ~20% for ROK 42 and ~15% for ROK 43 over their respective checks can increase sales volumes.
- **Lower risk:** ROK 42 tolerates flooding and iron toxicity; ROK 43 tolerates drought.
- **Earlier revenue:** ROK 42 matures in ~105 days; ROK 43 in 90–96 days.
- **Market appeal:** Both offer good milling and cooking quality; ROK 43 adds aromatic, slender grains.

Key points to design your business plan

For **seed multipliers and sellers**, ROK 42 and ROK 43 serve rainfed lowland and upland markets.

- **Opportunity:** Target demand for flood-, iron-toxicity- or drought-tolerant varieties.
- **Demand:** Demonstrate reported yield gains of 20% and 15%, early maturity and grain quality.
- **Profitability:** Assess margins against seed production and distribution costs.
- **Supply:** Secure authentic seed, confirm multiplication rights and deliver before planting.
- **Scaling:** Expand through agro-dealers and farmer groups as performance and demand justify.

Inclusion assessment 12 12 12

Climate impact 6

Commodities

Rice

Sustainable Development Goals

1 NO POVERTY · 2 ZERO HUNGER · 13 CLIMATE ACTION

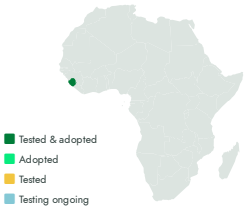
Categories

Production, Improved varieties, Disease resistance, Insect resistance, + 2 more

Best used with

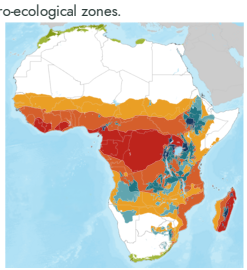
Axial flow thresher and improved quality polishing, Integrating rice and fish farming systems
See all 2 technologies online

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers, Processors, Seed companies, Researcher center, Advisory and Extension Services