

# ARICA: Advanced rice varieties for Africa

Arica rice, the high yield, disease and stress tolerant rice



Hybrid ARICA lines are advanced rice varieties with high yield potential and resistance to diseases and environmental stresses. They are developed using a three-line or a two-line breeding system, involving backcrossing, test-crossing, and microsatellite screening. To be classified as ARICA, a breeding line must outperform benchmarks in seed yield and grain quality over three...



**Africa Rice Center**  
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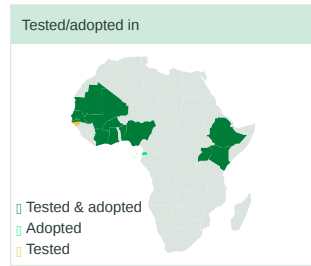
Technology from  
**ProPAS**

Commodities  
Rice

Sustainable Development Goals

Categories  
Production, Improved varieties,  
Yield improvement, Quality improvement

- Best used with
- [Nitrogen management for Efficient Rice Fertilization >](#)
  - [Foliar micronutrient addition for healthier rice >](#)
  - [Precision Rice Irrigation and Surface Leveling >](#)
  - [Motorized weeders for rice production >](#)
  - [RiceAdvice digital support >](#)



Where it can be used  
This technology can be used in the  
selected agro-ecological zones

This technology is **TAAT1 validated**. 7-7 Scaling readiness: idea maturity: 7/9; level of use: 7/9

<p>Cost: <b>USD</b> <b>0,8 - 1,2</b></p> <p>Initial cost of a Kg of seed</p>	<p>ROI: <b>USD</b> <b>40 %</b></p> <p>Increase in yield (income)</p>
<p><b>356 USD</b></p> <p>Planting, maintenance, harvesting and winnowing</p>	<p><b>50 - 111 %</b></p> <p>Potential yield</p>
<p><b>IP</b></p> <p>Open source / open access</p>	

- ### Problem
- Traditional rice varieties in Africa yield inadequately.
  - Common rice diseases and pests diminish yields and threaten food security.
  - Environmental variability poses significant challenges, affecting crop growth and productivity.
  - Traditional rice varieties struggle to adapt to diverse agroecosystems, resulting in suboptimal performance.

- ### Solution
- ARICA varieties offer increased productivity and profitability.
  - ARICA lines resist common rice diseases and pests, ensuring stable yields.
  - ARICA hybrids withstand environmental stresses, ensuring consistent yields.
  - ARICA varieties thrive in diverse agroecosystems, providing flexibility to farmers.
  - Some ARICA lines possess traits like drought resistance and iron toxicity tolerance, addressing specific challenges.

## Key points to design your business plan

**For Multipliers:**

- ARICA varieties allow manufacturers to produce high-yield, stress-resistant rice for Sub-Saharan Africa.
- Target customers include seed manufacturers and agricultural suppliers.
- Collaboration with research institutions is key for development and distribution.
- Essential resources include advanced breeding techniques and reliable distribution networks.

**For Users:**

- ARICA varieties boost farmers' yields and profitability.
- They offer stress resilience and better grain quality.
- Partners include agricultural services and seed suppliers.
- Farmers can see yield increases of up to 40%, driving domestic rice production and economic growth.

Gender assessment **84**

Climate impact **87**

