

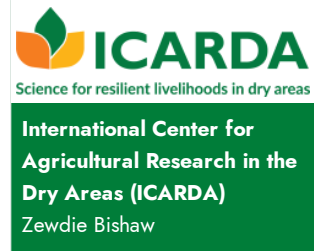
# Yellow Rust and Stem Rust Resistant wheat

## Rust-Resistant Wheat for a Flourishing Future

Rust-resistant wheat varieties use All-stage resistance (ASR) and Adult plant resistance (APR) genes to combat rust fungi. ASR provides strong protection but can be overcome by evolving fungi. APR offers partial, longer-lasting, broad-spectrum resistance. Combining ASR and APR enhances resistance.



Symptoms of yellow rust (left) and stem rust (right)



This technology is **TAAT1 validated**.



Scaling readiness: idea maturity 7/9; level of use 7/9

Gender assessment



Climate impact



### Problem

- **Rust Epidemics:** Yellow and stem rust cause significant yield losses and devastate wheat crops in Sub-Saharan Africa.
- **Rapid Spread:** These diseases spread rapidly through wind-borne spores, leading to massive losses.
- **New Strains & Native Infections:** Continuous emergence of new strains and infections in native grasses make control and eradication challenging.

### Solution

- **ASR and APR Genes:** Provide strong and broad-spectrum protection against rust fungi at all plant stages.
- **High Yield Potential:** Maintain high yield despite rust resistance.
- **Robustness:** Exhibit resistance to other diseases and environmental stresses like drought.

### Key points to design your project

Rust-resistant wheat varieties mitigate climate change effects on wheat production and contribute to SDGs 2, 5, and 13. Adoption involves:

1. **Capacity Building:** Training farmers on the benefits and management of these varieties.
2. **Participatory Variety Selection:** Involving farmers in trials to select suitable varieties.
3. **Seed Multiplication and Distribution:** Producing and distributing seeds, requiring partnerships with seed companies and local governments.
4. **Field Demonstrations:** Showcasing the performance of the varieties.
5. **Monitoring and Evaluation:** Regularly assessing the adoption and impact.
6. **Advocacy:** Promoting policies and practices that support widespread adoption.

These activities may overlap and their sequence can vary based on the project's context and resources.

**4.1** Ton/ha

average grain yield

**440** USD

Total farming operational costs

Technology from

[ProPAS](#)

Commodities

Wheat

Sustainable Development Goals



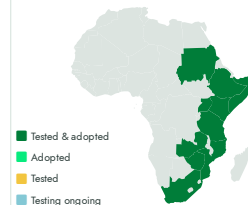
Categories

Production, Improved varieties,  
Disease resistance, Yield improvement

Best used with

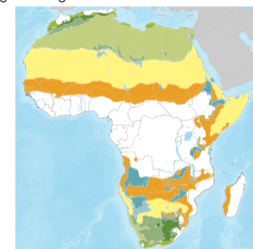
- [Integrated Management of Insects, Diseases and Weeds in Wheat >](#)

Tested/adopted in



Where it can be used

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



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<https://taat.africa/qod>

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