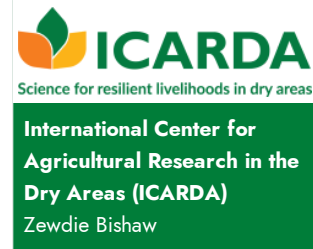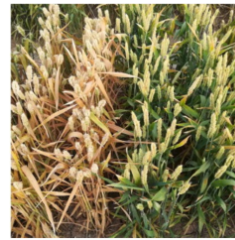# Heat and Drought Tolerant Wheat Varieties

Wheat cultivation in high temperature regions

These wheat varieties mature in 90 days, withstand temperatures 4℃ above normal, maintain 75% yield under extreme conditions, resist diseases like yellow stem rust, and have high water use efficiency. They also good for bread flour with a protein content of 14-15%. Ideal for challenging environments like Sub-Saharan Africa.

ICARDA
Science for resilient livelihoods in dry areas

International Center for Agricultural Research in the Dry Areas (ICARDA)
Zewdie Bishaw

✓ This technology is **TAAT1 validated**.

▦ 7·8 — Scaling readiness: idea maturity 7/9; level of use 8/9

Gender assessment 👍 4

Climate impact 👍 7

Technology from
ProPAS

Commodities
Wheat

Sustainable Development Goals
2 ZERO HUNGER
13 CLIMATE ACTION
1 NO POVERTY
5 GENDER EQUALITY

Problem

- **Heat Stress**: Yield loss due to temperatures 4℃ higher than normal.
- **Drought Conditions**: Poor performance with less than 200mm of moisture.
- **Low Productivity**: Traditional varieties yield much less than 6 tons/ha.
- **Limited Cultivation Zones**: Unsuitable for high temperatures and low rainfall areas

Solution

- **Heat Tolerance**: Withstand temperatures 4℃ higher than normal.
- **Drought Resistance**: Perform well with less than 200mm of moisture.
- **Higher Yields**: Achieve up to 6 tons/ha.
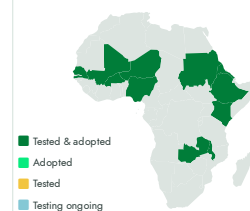- **Expanded Cultivation Areas**: Suitable for high-temperature and low-rainfall regions.

Categories
Production, Improved varieties, Drought tolerance, Heat tolerance

Best used with
- Wheat Cultivation in Dryland through Winter Irrigation ›
- Furrow Irrigated Raised Bed Wheat Production ›
- Yellow Rust and Stem Rust Resistant wheat ›

Key points to design your project

To integrate this technology

- Calculate seed quantity based on planting rate and cost,
- Consider sourcing logistics,
- Provide training and communication support, and
- Collaborate with agricultural institutes and seed multiplication companies for implementation.

Additionally, it's recommended to combine this technology with other wheat production methods for optimal results.

Tested/adopted in

■ Tested & adopted
■ Adopted
■ Tested
■ Testing ongoing

Cost: $ $$

4 - 6 tons/ha
increase in yield

100 kg/ha
Planting rate

💡 IP
Unknown

Where it can be used

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