Safeguarding future wheat

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Key take-aways

• Wheat is pivotal to alleviation of hunger, eaten by 2.5 billion people globally.
• >50% of the world’s wheat is grown in the Global South, where instability disproportionately impacts production and/or supply.
• Multi-faceted, multi-layered response is required to stabilize global wheat.
• New CIMMYT work is accelerating breeding to build future resilience.
• Opportunities for further innovation including new stakeholders & ideas.

Crawford Fund visit to CIMMYT, Turkey (2003)
Why wheat?

Map produced by Kai Sonder (CIMMYT)
Unequal impacts

Broken bread – avert global wheat crisis caused by invasion of Ukraine

Russia’s war highlights the fragility of the global food supply – sustained investment is needed to feed the world in a changing climate.

https://www.nature.com/articles/d41586-022-00789-x

Wheat versus heat

Urgent action is required to mitigate effects of temperature extremes in South Asia, which threaten wheat production and human health.

https://www.cimmyt.org/blogs/wheat-versus-heat/
Supply dependency

a. Annual wheat exports (means of 2018 & 2019)

b. Annual wheat imports (means of 2018 & 2019)

c. Wheat trade (sum of 2018 & 2019)

Bentley et al. (2022) Nature Food https://doi.org/10.1038/s43016-022-00559-y
Supply dependency

Source: OECD-FAO Agricultural Outlook OECD Agricultural Statistics (2021)
Responses to current wheat crisis

Short-term
• Boosting production
• Ensuring access
• Securing supply e.g. blending

Medium-term
• Targeting expansion
• Self-sufficiency pathways
• Monitoring capacity

Long-term
• Agro-ecosystem diversity
• Addressing gender disparities
• Increasing investment

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www.cgiar.org
Boosting & expanding production

Accelerating breeding at scale

Accelerated population improvement & trait introgression

Pre-breeding and trait discovery for climate adaptation traits
Wheat for the future: from farmers to consumers

Product concept testing led by Jason Donovan & Pieter Rutsaert
Wheat for the future: exploring cross-disciplinary opportunities

Agri-Innovation Fellowship

Centre for Entrepreneurial Agri-Technology

BLOCK CHAIN
Wheat for the future: supporting the next-generation

2022
ADVANCED WHEAT IMPROVEMENT COURSE

Online course offered
September 19 – October 14
Global Women in Crop Science

Women in Crop Science Directory: [https://tinyurl.com/yhdefpmj](https://tinyurl.com/yhdefpmj)

See our new website: [www.womenincropscience.org](http://www.womenincropscience.org)
Thank you

Find out more about the CIMMYT Global Wheat Program
https://www.cimmyt.org/work/wheat-research/

Find out more about CEAT
https://ceat.org.au/