



WHEAT INITIATIVE

John Spink
Chair, WI Board

Established in June 2011, endorsed by the G20 Agriculture Ministries.


- Originally called the “International Research Initiative For Wheat Improvement” (IRIWI)
- Named “Wheat Initiative” after the G20 technical meeting in April 2012



Created to provide a framework mechanism for wheat improvement at the international level to:

- Identify synergies
- Facilitate and nurture research collaborations
- Share resources and capabilities

Encourage and support the development of a vibrant global wheat research community that shares resources, capabilities, data and ideas for wheat improvement.

 Hosted from its creation and until 2018 at INRAe in Paris, France.



Currently hosted at the **Julius Kühn Institute (JKI) in Berlin** with strong support from the German Ministry for Food and Agriculture (BMEL) and the JKI. Until end 2027.

WI's three major committees:

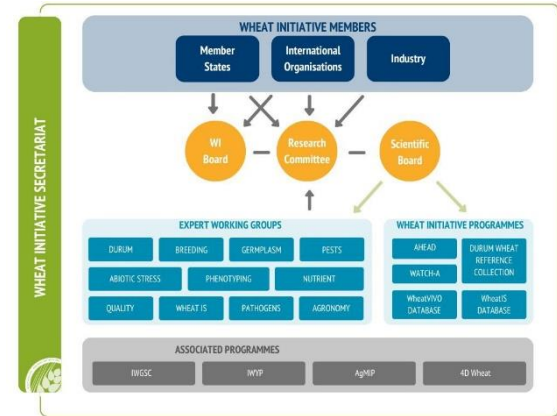
- WI Board (John Spink, Teagasc, Ireland)
- Research Committee (Prof Frank Ordon, JKI, Germany)
- Scientific Board (Prof Peter Langridge, University Adelaide, Australia)



WI ORGANISATION AND NETWORK

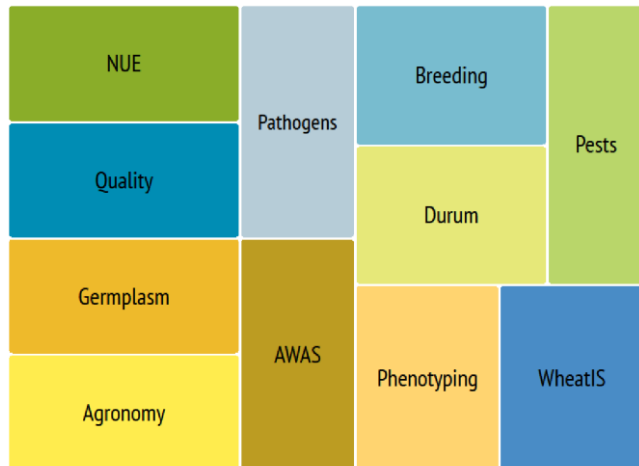
MEMBERS

- Australia
- Canada
- China
- France
- Germany
- Ireland
- India
- Italy
- Japan
- Morocco
- Republic of Korea
- Türkiye
- UK
- Uruguay
- USA
- CIMMYT
- ICARDA
- Arvalis
- RAGT
- ASUR Breeding
- Florimond Desprez



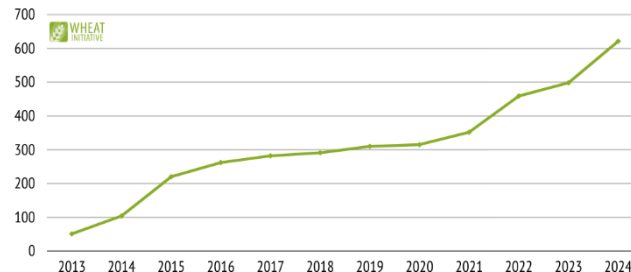
11 EXPERT WORKING GROUPS (EWGs)

working on different wheat research related topics:



EWG MEMBERS AND EARLY CAREER RESEARCHERS (ECRs)

working on different wheat research related topics:



One out of six members of our EWGs is an Early Career Researcher



WI STRATEGIC RESEARCH AGENDA

First launched in 2015 and **updated in 2022** to:

- Highlights the current global wheat research **challenges** and potential scientific **solutions**
- Demonstrate **results of combined efforts** of leading wheat researchers, government and industry representatives to **identify the best options** to advance food security and provide safe and nutritious wheat.
- Look back to what has been achieved since the previous Agenda and look at the new challenges with an updated perspective.



Meeting the Challenges Facing Wheat Production:
The Strategic Research Agenda of the Global Wheat
Initiative: *Agronomy* 2022, 12(11), 2767;
<https://doi.org/10.3390/agronomy12112767>

INTERNATIONAL WHEAT CONGRESS 2024



BIENNIAL EVENT:

- 2019 in Saskatoon, Canada
- 2022 in Beijing, China.

NEXT: IWC2024 - PERTH, AUSTRALIA

Dates: **September 22 to 27, 2024**. Registration is open,
Early bird closes 15 July 2024

<https://www.iwc2024.com/>

WheatVIVO



- Open-access web portal
- Provides information about wheat researchers, publications, organisations and projects globally across the public-private wheat community.
- From February 2024, abstracts of both oral and poster presentations from IWC2019 and IWC2022 are available through WheatVIVO.

<https://wheatvivo.org/>

WheatIS



- An International Wheat Information System which supports the global wheat research community
- WheatIS Data Discovery tool: provides a single-access web base system to the available data resources and bioinformatics tools :

<https://urgi.versailles.inrae.fr/wheatis/>

Questions: wheatis-contact@wheatis.org



Wheat initiATive Crop Health Alliance



- Wheat production suffers from major losses due to diseases. The scale of the problem was estimated to average 21.5% loss of wheat production. These losses are primarily due to **11 diseases**.
- Controlling the diseases in all areas of the world will **not only increase local wheat production**, but it would also **reduce the risk and impact of transcontinental movement** of pathogen populations and disease epidemics.

Focus of current work has been **on identifying national programs and data sources that can be used as a base for building a disease monitoring system and assessing the impact of disease on wheat production.**

VISION: Reduce the impact of pests and diseases on wheat production through a global, collaborative framework.

MISSION: Our mission is to unite scientists from diverse backgrounds and disciplines to collaboratively develop and unify methodologies, to build capacity and share resources to minimise the impact of wheat pests and pathogens.

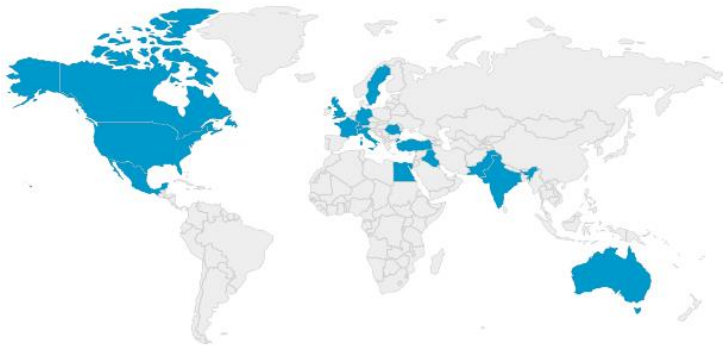
WI EWGs involved: Control of Wheat Pathogens and Pests



Alliance for Wheat Adaptation to Heat and Drought



- Bring the wheat research community together to share information and exchange germplasm, technologies and ideas for enhancing tolerance to heat and drought.
- Build the capacity for research and technology delivery in all regions where heat and drought challenge wheat production.
- Provide a framework for effective investment from funding organisations and value-adding across global research, enabling ready access and uptake of new technologies and resources.
- Engage the global wheat R&D and breeding community to promote collaboration and information sharing on heat &



Members

Year	2020	2021	2022	2023	2024
Continents	2	3	3	4	5
Countries	2	5	7	11	16



➤ WI & 2nd GREEN ERA-HUB CALL RESEARCH FUNDING CALL

Title: Crop and Livestock farming meeting the challenges of climate change

Topics: 1: Improved resilience and health of crops
2: Livestock production and climate change

➤ Early Career Researchers Program launched: 109 members

➤ WI Expert Working Groups achievements:

- **Durum EWG:** Mentorship program. Chromosome level sequencing of the Svevo genome. Pangenome of tetraploid wheats.
- **Quality EWG: Identification of wheat quality ideotypes.**
- **Pathogen EWG:** Identification of a need for a universal reference disease prevalence (survey to be rolled out in 2024) and strategy for isolates and genetic sequences to be shared.
- **WheatIS EWG:** Gene nomenclature publication. <https://doi.org/10.1007/s00122-023-04253-w>
- WheatIS Data Discovery tool: update of existing sources (Ensembl Plants, Gramene) and addition of new sources (WGGC). <https://urgi.versailles.inrae.fr/wheatis/>





Thank you!

W: www.wheatinitiative.org/

X: [@WheatInitiative](https://twitter.com/WheatInitiative)

E: wheat.initiative@julius-kuehn.de

