



MAIZE and WHEAT SCIENCE

to sustainably feed
the world

Applying high-quality science and strong partnerships, CIMMYT works for a world with healthier and more prosperous people, free from global food crises and with more resilient agri-food systems. With **projects in 49 countries, offices in 13 countries** and **1,250 staff**, CIMMYT collaborates with hundreds of partners.

 **CIMMYT**^{MR}
International Maize and Wheat Improvement Center


CGIAR

Globally, nearly **2 billion people** lack regular access to safe, nutritious and sufficient food. Millions have enough food but eat poorly, suffering as a result from malnutrition, obesity, heart disease and diabetes.

With our global population expected to reach **10 billion by 2050**, the world's food producers must meet rising demand while reducing their environmental footprint.

Feeding the world comes at a cost: farmers and livestock producers generate nearly a fifth of global greenhouse gas emissions. Climate change effects – rising temperatures, erratic rainfall, new pests and diseases – severely impact the livelihoods of more than **500 million smallholder farmers**, who are also our main food producers.

These combined dangers are slowing our progress towards Zero Hunger with **enhanced nutrition by 2030** and other United Nations Sustainable Development Goals.



Half of the **maize and wheat** grown in low- and middle-income countries derives from CIMMYT varieties.

CIMMYT leads maize and wheat research for food systems that deliver affordable, sufficient, and healthy diets produced within planetary boundaries.

Maize and wheat food farming systems account for a quarter of the global crop area and provide **25% of humanity's calories**. Wheat is the world's number-one plant source of protein – contributing 20% of protein consumed by humans – and is eaten by over **2.5 billion people**, nearly half of whom depend on it as their primary staple food. Maize is a staple food for **900 million people living on less than US\$2 a day** and the most important food crop in sub-Saharan Africa. Whole-grain foods from both crops are rich in dietary fiber, an essential factor for human health.



CIMMYT's research solutions

- Understanding and conserving the genetic diversity of maize and wheat.
- Collaborating with international and national partners to develop improved varieties.
- Identifying practices to adopt sustainable agriculture in wheat- and maize-based systems.
- Determining the socioeconomic factors that impact farmers' success.
- Support countries in identifying development opportunities, including research priorities.

Our research is focused on **smallholder farmers in low- and middle-income countries** and on improving the livelihoods of people who live on less than US\$2 a day. CIMMYT science reaches them through innovation hubs, appropriate technologies, sustainable sourcing, and helps to address their needs and challenges through public policy guidance.

The Center's impacts and relevance would be impossible without its **strong partnerships**. CIMMYT collaborates with farmers, consumers, national research systems, funding and research partners, private companies, and other critical value chain actors.

Highest standard of research to meet farmers' needs

With world-class research facilities around the world, CIMMYT pioneers the adoption of new breeding technologies and data tools with public and private partners. **Foresight and targeting, analysis of adoption, and studies of markets and value chains**, all help CIMMYT prioritize, target, and scale up.

CIMMYT's breeding work alone generates **US\$4.5-5 billion each year** in added benefits to farmers and consumers.



Safeguarding genetic treasures to create solutions on the ground

CIMMYT preserves the largest collection of maize and wheat in the world. Seed from this collection is made freely available to anyone able to put it to good use. Through CIMMYT's global breeding system and partner network, **this genetic diversity is used to develop more productive and nutritious varieties of maize and wheat** that can resist climate stress and diseases.

CIMMYT's genebank preserves, studies, and shares **175,000 unique collections of maize and wheat seed**.



Staying the course toward a sustainable future

CIMMYT works toward **sustainable maize and wheat systems**, to curb the negative environmental impacts of intensive farming and to strengthen farmers' resilience in the face of climate change.

Researchers develop and share drought-tolerant crop varieties, pest and disease management best practices, digital nutrient management tools, and other technologies that encourage more efficient use of water, soil and nutrients.



90% of CIMMYT's work relates to **climate change adaptation and mitigation.**

Inclusive access

Innovations only have impact if they reach people. Researchers and strategic alliances advocate for fair policy environments that empower farmers and small enterprises.

CIMMYT listens to women and marginalized groups, and gives them access to the right knowledge, markets, technology, and training. For example, a new generation of young entrepreneurs are joining the agricultural sector thanks to the opportunities created by small-scale mechanization.

Through biofortification — breeding and agronomic practices that add micronutrients such as zinc and vitamin A — of maize and wheat, CIMMYT gives consumers access to nutrition beyond essential calories and protein, supporting the development of a healthy brain, body and immune system.

Working with **governments and seed companies**, CIMMYT strengthens seed systems, to ensure that new improved seeds reach the farmers who most need them.

CIMMYT embraces scaling as a fundamental component of successful research for development. **Innovations and technologies must be scalable**, so they can be adopted by as many people as possible, transforming communities for the better.

About CIMMYT

The International Maize and Wheat Improvement Center (CIMMYT) is a non-profit international agricultural research and training organization focusing on maize and wheat, and related cropping systems and livelihoods.

Applying high-quality science and strong partnerships, CIMMYT works for a world with healthier and more prosperous people, free from global food crises and with more resilient agri-food systems featuring enhanced productivity, better profits for farmers and reduced environmental damage.

CIMMYT was founded in 1966 on the work of Norman E. Borlaug, who received the Nobel Peace Prize in 1970 in recognition for wheat research that sparked the Green Revolution.

CIMMYT is a member of CGIAR, a global research partnership for a food secure future, and leads the CGIAR Research Programs on Maize and Wheat, and the Excellence in Breeding Platform.

www.cimmyt.org