



HarvestPlus aims to improve nutrition and public health in Pakistan by promoting **wheat** that can provide more **zinc** in the diet. We work with more than 20 partners drawn from government, business, and civil society.

Better Crops for Better Nutrition

We use a process called biofortification to conventionally breed staple food crops that are richer in essential vitamins and minerals and can be grown by rural communities that are often missed by other interventions, such as supplementation and food fortification. Our food-based approach relies on familiar staple foods that people already eat regularly and that can be part of other efforts to improve nutrition, such as dietary diversification.

The Costs of Zinc Deficiency

- Zinc deficiency causes stunting, lowers immunity, and increases risk of diarrheal disease and respiratory infections.
- 45% of children under 5 in Pakistan are estimated to be zinc deficient (*WHO*).*
- Mineral and vitamin deficiencies cost Pakistan nearly US\$3 billion in GDP losses annually (*World Bank*).

Crops for Pakistan



Zinc Wheat

Wheat is the primary staple food in Pakistan. Pakistan ranks number 5 out of 73 countries suitable for investing in zinc wheat.

Nutritional Benefits: Provides up to 50% of daily zinc needs

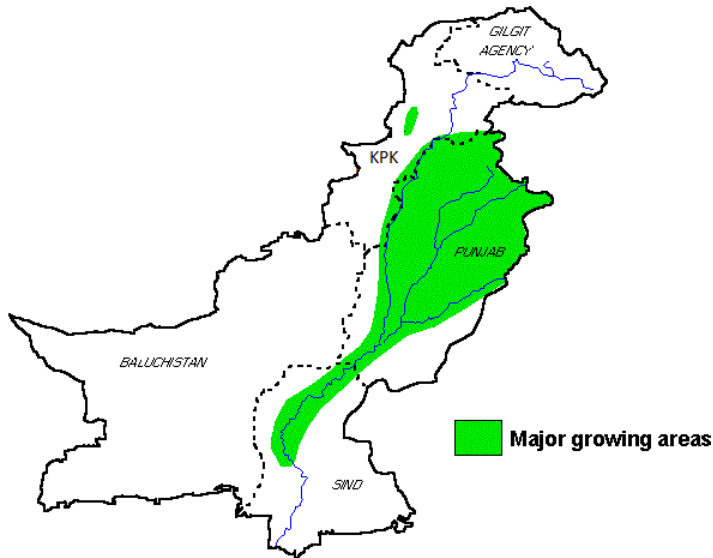
Farmer Benefits: High yielding and disease resistant

Biofortified Varieties: Zincol—2015

*Based on stunting as a proxy for risk of zinc deficiency

On the Ground

HarvestPlus works with a wide range of partners to promote the availability, adoption, and consumption of zinc wheat across four provinces of Pakistan. The goal is that more than 100,000 Pakistani farming households will be growing zinc wheat by 2018.



How We Work

HarvestPlus supports the Pakistan Agricultural Research Council (PARC) to breed, test, and release varieties of zinc wheat developed in partnership with the International Maize and Wheat Improvement Center (CIMMYT). The first zinc wheat variety, Zincol-2015, will be released to farmers at the onset of the wheat cropping season during 2015-16, and mass produced through our partnership with public and private seed multipliers and farmers. Initially, we are focusing on multiplying and providing zinc wheat seed through a select number of partners to target home production and consumption. We are also setting up demonstration plots in all provinces, and preparing to provide seed at subsidized rates to small and medium scale farmers starting in 2016. Public awareness campaigns, including through trainings, meetings, field days, and the media, are helping to educate farmers on the benefits of zinc wheat. We are continuing our support to the PARC and the National Agricultural Research System to develop more, higher yielding zinc wheat varieties for future release.

“As a farmer, I am looking forward to producing and consuming high-zinc wheat.”

~ Syed Hassan Raza
Farmer

Partners

CGIAR: International Center for Tropical Agriculture (CIAT) • International Food Policy Research Institute (IFPRI) • International Maize and Wheat Improvement Center (CIMMYT) • **Local:** Public • Ministry of National Food Security & Research • Ministry of National Health Services, Regulation and Coordination • Ministry of Planning, Development and Reforms • Federal Seed Certification & Registration Department (FSC&RD) • National Agricultural Research System (NARS) • Pakistan Agricultural Research Council, Islamabad (PARC) • Provincial Food, Agriculture and Health Departments of Punjab, Sindh, Balochistan and Khyber Pakhtunkhwa • Academic • PMAS University of Arid Agriculture, Rawalpindi • **Seed Multipliers:** Punjab Seed Corporation • Sindh Seed Corporation • PARC-AgroTech Company • 4-Brothers Lahore • Beacon Seed Corporation Kunri Umar Kot • Bhanbhor Seed & Agro Services Tando Adam • Bhugio Seed Corporation Mirpur Khas • Jehan Agro Enterprises Mirpur Khas • Jullunder Seed Corporation RYK • Neelam Seed Corporation Multan • Resham Seed Corporation RYK • Tara Seed Lahore • Farmers' Associations • **Promotional Partner:** Fauji Fertilizer Company Limited

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HarvestPlus improves nutrition and public health by developing and promoting biofortified food crops that are rich in vitamins and minerals, and providing global leadership on biofortification evidence and technology. HarvestPlus is part of the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH). CGIAR is a global agriculture research partnership for a food secure future. Its science is carried out by its 15 research centers in collaboration with hundreds of partner organizations. The HarvestPlus program is coordinated by two of these centers, the International Center for Tropical Agriculture (CIAT) and the International Food Policy Research Institute (IFPRI).



RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

LED BY IFPRI

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