



Food and Agriculture  
Organization of the  
United Nations



# WHEAT RUST DISEASE GLOBAL PROGRAMME



CRISIS MANAGEMENT CENTRE  
FOR THE FOOD CHAIN  
Plant Protection

The background of the top section is a vibrant green. It features a pattern of thin, white, curved lines that resemble the texture of wheat stalks or the spread of a rust disease. On the left side, there are faint, stylized illustrations of wheat leaves and stalks in a lighter shade of green.

# **WHEAT RUST DISEASE GLOBAL PROGRAMME**

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS  
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## Abbreviations and acronyms

|        |   |
|--------|---|
| BGRI   | Borlaug Global Rust Initiative  |
| CGIAR  | Consultative Group on International Agricultural Research                         |
| CMC    | Crisis Management Centre  |
| CIMMYT | International Maize and Wheat Improvement Center                                  |
| EMPRES | Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases |
| FAO    | Food and Agriculture Organization of the United Nations                           |
| FFS    | Farmer field school   |
| GIS    | Geographic information system   |
| IARC   | International Agricultural Research Centre  |
| ICARDA | International Center for Agricultural Research in the Dry Areas                   |
| IFAD   | International Fund for Agricultural Development                                   |
| Ug99   | Virulent strain of wheat stem rust  |

## Executive summary

Wheat, grown on more than 200 million hectares of land worldwide, is a source of food and livelihoods for over one billion people in developing countries. This important commodity has been greatly affected by recent soaring food prices. Wheat prices have doubled in the last year, largely as a result of severe drought, the high cost of fuel and an increased demand for grains. In addition, plant disease has placed further constraints on wheat production. Exacerbated by climatic stress, especially in rainfed areas, the impact of disease is expected to increase. By eliciting additional losses in yield, disease causes wheat prices to continue their escalation, in turn creating additional challenges for vulnerable, wheat-reliant populations.

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In the past few years the virulent strain of wheat stem rust disease known as Ug99 has emerged from East Africa and spread quickly across borders. Ug99 reached the Islamic Republic of Iran in late 2007, and the disease now threatens the Near East, Eastern Africa and Central and South Asia. These regions account for some 37 percent of global wheat production, and wheat is the staple food crop for most of the countries in these regions. On average wheat provides 40 percent of the per capita calorie supply, and it is especially important to the diets of the most vulnerable. Ug99 is highly virulent for almost all wheat varieties grown worldwide; the risk that it could cause a global epidemic is very real. In Kenya, field trials have shown Ug99 to cause yield losses of up to 80 percent. Moreover, the cost of a 10 percent loss in areas immediately at risk is estimated to exceed USD 7 billion.

Through its Wheat Rust Disease Global Programme, FAO is promoting global action in an attempt to prevent a potential wheat production crisis. The Programme's goal is to contribute to global food security through the prevention and management of emerging wheat rust diseases and the enhancement of wheat productivity. To achieve this goal, FAO is working in close collaboration and partnership with national governments, International Agricultural Research Centres and other international institutions.

The Programme reinforces and complements the activities of the Borlaug Global Rust Initiative and FAO's Initiative on Soaring Food Prices. Through the Wheat Rust Disease Global Programme, FAO is taking the lead in supporting the efforts of national governments and the international community to manage the Ug99 epidemic and to prevent similar wheat rust crises in the future.

The Programme covers 29 countries in the regions of East and North Africa, the Near East and Central and South Asia. It involves countries already affected by Ug99 or at risk of Ug99 introduction by varying degrees. With a total budget of nearly USD 74 million over four years, the Programme covers five main components at the national level. These are: (i) support to national policy for preparedness and contingency planning; (ii) enhancement of surveillance and early warning systems, including virulence tracking; (iii) enhancement of national wheat varietal registration programmes for the release of resistant varieties; (iv) enhancement of seed systems for quick multiplication and distribution of quality seeds of resistant varieties; and (v) improvement of wheat rust management at the field level through participatory farmer training to reduce risk and improve yields under local farming conditions.

The Wheat Rust Disease Global Programme emphasizes regional and international cooperation and information sharing. FAO is well positioned to lead such international efforts through its status as a neutral international forum and through its linkages with rural communities, national governments, regional bodies, international agriculture research and development institutions and the donor community.