



# RUST SPORE

A Global Wheat Rust Monitoring System

[www.fao.org/agriculture/crops/rust/stem/en](http://www.fao.org/agriculture/crops/rust/stem/en)



STEM (BLACK) RUST



## INTRODUCTION

To keep pace with the evolving and recurring threats posed by wheat rusts there is a need for continuous vigilance and monitoring of the pathogen and host. Identification of the Ug99 lineage of wheat stem rust pathotypes in East Africa highlights the recurring nature of the threat posed by wheat rusts. Unprecedented broad virulence of these pathotypes has rendered a large proportion of the world's wheat cultivars susceptible to stem rust. The Rust SPORE web portal is one component of international efforts to establish a global rust monitoring system. The current focus is on Ug99 and emerging variants thereof.

## AIMS

- Deliver up-to-date information on the status of wheat stem rust
- Monitor important wheat stem rust pathotypes
- Synthesize and provide easy access to reliable wheat rust data at the global scale

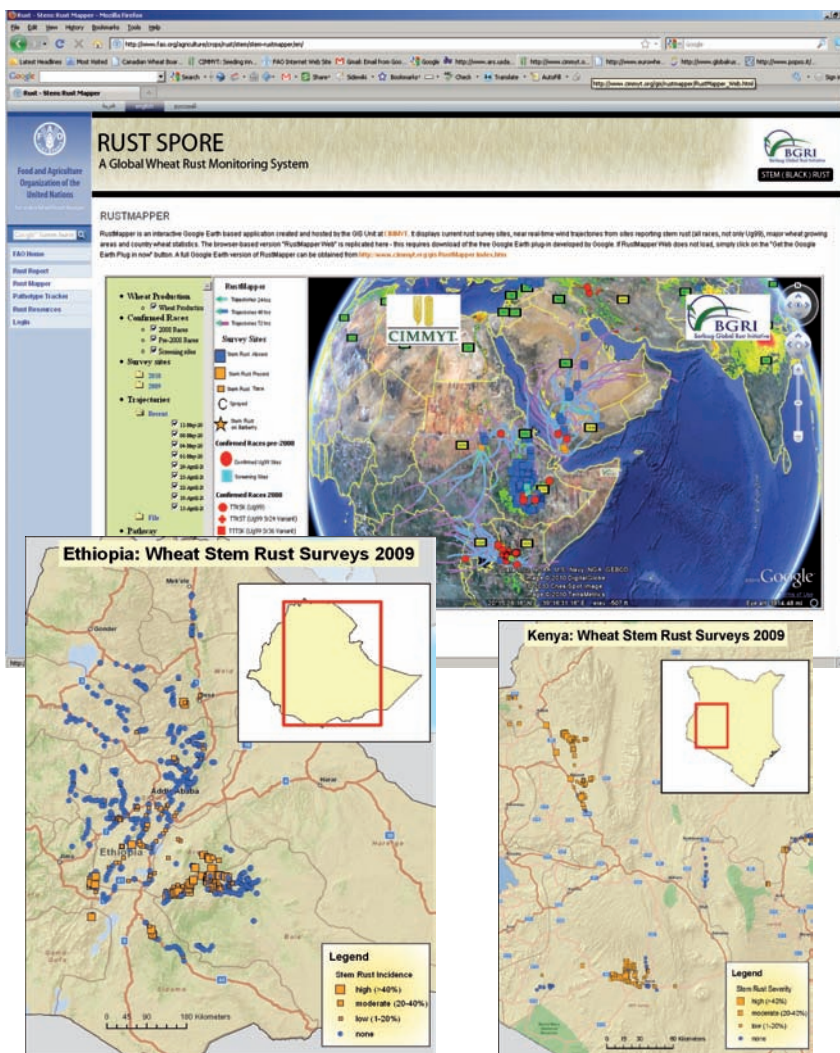
## Rust SPORE COMPONENTS

### 1. Surveillance Information

Based on information received from an international rust surveillance network, regular updates are provided on the current status of wheat stem rust including quarterly rust bulletins.

Using standardized survey techniques a clearer picture of annual stem rust incidence and severity is being produced. Information is provided at both global and national levels.

A rapidly expanding international rust surveillance network is contributing vital field-based information on a regular basis. Fifteen priority countries for Ug99 contibuted surveillance data in 2009. Strengthening and expansion of this network is an on-going activity.





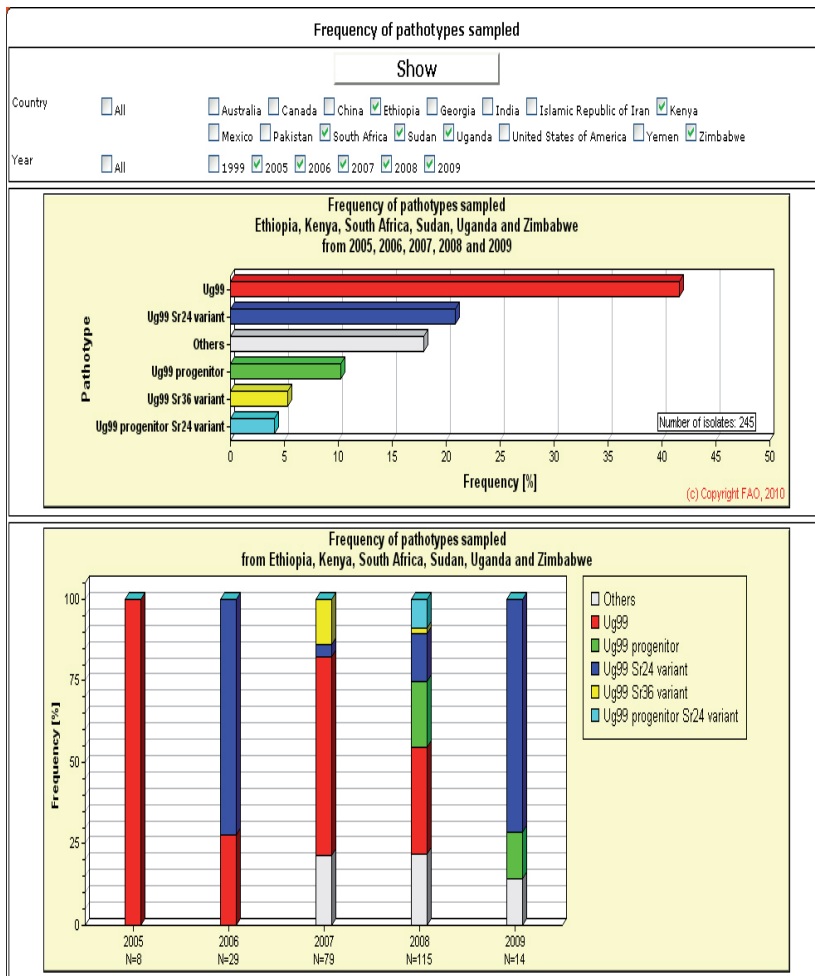
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## 2. Pathogen Monitoring

Pathogen monitoring is undertaken through international sampling of stem rust isolates coupled to standardized pathotype analysis. Rust SPORE provides a unique global overview of stem rust pathogen populations. Pathogen changes and distribution of the Ug99 race lineage are the current focus. Seven variants in the Ug99 lineage are now recognised. Rust SPORE tracks the geographical and temporal changes of these variants.

## 3. Information Tools

Data management is facilitated through a centralized database. Use of geo-referenced data inputs permits integration with a GIS-based analytical system. Rust SPORE contains a suite of powerful information tools. These currently include:

- Pathotype Frequency Graph
- RustMapper
- Race Summary Map

Additional tools will be developed based on user needs.

## Rust SPORE DEVELOPERS

Rust SPORE is part of the Borlaug Global Rust Initiative (BGRI) efforts to mitigate the threat of wheat rust diseases. Key developers of Rust SPORE are:

- UN-FAO ([www.fao.org](http://www.fao.org))
- CIMMYT ([www.cimmyt.org](http://www.cimmyt.org))
- Aarhus University, Denmark ([www.agrisci.org](http://www.agrisci.org))

## CONTACT

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