ICT framework for global wheat rust surveillance and monitoring

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Abstract

Experiences and expertise from the database and information platforms, www.eucablight.org, www.EuroBlight.net and www.EuroWheat.org was adopted by the global wheat rust community in the frame of the Borlaug Global Rust Initiative (BGRI) aiming to mitigate the global threat of wheat rust diseases (stem rust, leaf rust and yellow rust). A web-based data management system - the Wheat Rust Toolbox - was developed to support surveillance, monitoring and early warning of new aggressive wheat rusts on a global scale. On-line data entry permits quality controlled and standardized data to be entered into the system. Once validated and approved, data are published and automatically disseminated via a series of interactive graphical and mapping web tools. The wheat rust single tools are embedded and integrated with other information in Rust Spore – a global wheat rust monitoring system. The targeted countries for Rust Spore are Central and West Asia and Africa. The data on yellow rust pathotypes for Europe are disseminated via www.eurowheat.org. The Wheat Rust Toolbox is now a part of the Global Rust Reference Centre at Aarhus University, Denmark (www.wheatrust.org). Selected results as well as methods and experiences on developing the ICT and organizational frameworks are presented.