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WHEAT RUST SURVEILLANCE AND MONITORING IN SICILY 2016-2018

Biagio Randazzo¹, Jens G. Hansen², Annemarie F. Justesen², Mogens S. Hovmøller²,
Mehran Potpour², Julian Rodriguez-Algaba² & Tine Thach²

¹*Società Semplice Agricola Randazzo (AS.A.R.) Baucina, Italy*

²*Global Rust Reference Center (GRRC), Aarhus University, Denmark*

Severe and widespread attacks of stem rust (Sr) and yellow (stripe) rust (Yr) were observed in Sicily in 2016. Since then, extensive surveillance and monitoring have been carried out in the region during 2017 and 2018, in farmers' fields and in breeding trials. In total, 82 Yr and 62 Sr isolates from Italy (approx. 90% from Sicily) were analysed at the GRRC for race phenotyping and SSR genotyping. The dominating race of stem rust in 2016 and 2017 was TTRTF, also found in mainland Italy. TTRTF was found on 25 different durum wheat varieties and breeding lines including the most grown varieties in Sicily. Another race, TKKTF, was found in Sardinia in 2017. Sr genotyping and race phenotyping for 2018 is on-going. The test of Yr isolates from 2016 to 2018 resulted in the identification of four races, i.e., "Warrior (-)", "Triticale 2015" "PstS14" and "Triticale2006". Triticale2015 dominated in 2017 and Triticale2006 were the most widespread race in 2018. In this study, the majority of commercial durum cultivars were susceptible to both stem and yellow rust. Some varieties were susceptible to more than one race of yellow rust. In Sicily, the majority of farmers do not protect their wheat crops with fungicides, and the durum wheat community needs tools and services for rusts disease surveillance and pathogen monitoring supplemented by new resistant germplasm to be included in breeding programs. All results regarding disease surveillance and pathogen monitoring is available in the Wheat Rust Toolbox and on wheat rust information platforms e.g. the GRRC website and RustTracker. Sicily is also included as a case study region in the H2020 project called RustWatch, a new European early-warning system for wheat rust diseases. Surveillance tools and services as well as updated results on disease surveillance and pathogen monitoring in Sicily will be presented.

ABSTRACT