

To whom it may concern

**GRRC report:  
Samples of stem rust infected wheat from Russia. 01/2017**

Sixteen collections of stem rust infected spring wheat were received from two locations near Omsk, Russia, in September 2016. Rust infections on stems from each collection went through GRRC standard recovery procedures. Bulk spore samples were successfully recovered from 14 collections:

Collection				Host					
Country	year	Dept_Region	Location	Latitude	Longitude	species	Sampled by	Status	Total
Russia	2016	WESP	Omsk	55,005108	73,195056	Bread wheat	Shamanin V.	Recovered	7
								Failed	2
		WESP	Omsk	55,13217	73,183837	Bread wheat	Shamanin V.	Recovered	7
<b>2016 Total</b>									<b>16</b>
<b>Russia Total</b>									<b>16</b>

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29th August 2017

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CVR No: 57607556  
EAN-No: 5798000877412

Bulk samples from each collection were harvested and used for initial race typing based on a set of 20 North American wheat differential lines + selected additional lines. After initial scoring of differential sets, 1-3 pustules per sample were sub-cultured for the development of single-pustule isolates. A subset of these was used to confirm initial race typing results, and to separate multiple races in case of mixed infection types on one or more differential lines. Single pustule isolates were multiplied and investigated in Ug99 PCR-Stage1 test.

**Results and interpretation**

A total 14 races were detected among 15 single pustule isolates derived from the 14 collections. Most races had unusual virulence patterns compared to races detected in recent years elsewhere in Asia and Africa. Ug99 or derivatives were not detected based on race assignment and all isolates were negative in the Ug99 Stage1 test. An isolate assigned race TTTTF, proved to be significantly different from isolates of this race, which appeared widespread in stem rust epidemics in Sicily 2016. The results of individual isolates are shown in Appendix 1. More detailed analyses of genetic diversity and relationship to stem rust populations and races elsewhere are ongoing.

It is recommended that the stem rust epidemic situation in Russia and Western Siberia is followed closely in the future and that initiatives to monitor pathogen diversity at wider scales are implemented.

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Appendix 1: Identified races of *Puccinia graminis* f. sp. *tritici* recovered from samples collected in Russia, 2016. Source: Global Rust Reference Center, Denmark. [www.wheatrust.org](http://www.wheatrust.org)

No.	Sample ID	Collection Date	Collection site		Host	Variety	Race/s identified
			Zone	Location			
1	RU115/16	17-08-2016	WESP	Omsk	Bread wheat	Aina	<b>THRTP, RRGTF</b>
3	RU116/16	17-08-2016	WESP	Omsk	Bread wheat	Tornado	<b>TKRPF</b>
4	RU118/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 208/08-4	<b>TTTTF, RKRSP</b>
6	RU119/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 96-12	<b>RFRSF</b>
7	RU120/16	17-08-2016	WESP	Omsk	Bread wheat	Eritrospermum 85-08	<b>THRTP</b>
8	RU123/16	17-08-2016	WESP	Omsk	Bread wheat	L 654	<b>RHRTF</b>
9	RU124/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 7-04-10	<b>TKRTF</b>
10	RU126/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 532-00-13	<b>QHHSF</b>
11	RU127/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 307/97-1	<b>RCRTE, SHHSF</b>
13	RU128/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 79-04-3	<b>RCRTP</b>
14	RU130/16	17-08-2016	WESP	Omsk	Bread wheat	Lutestsens 310-00-1	<b>QFRSF, RFRTF</b>