Microsatellite markers for regional differentiation of *Puccinia graminis* f. sp. *tritici* populations

Laprina Yu.V.[1], Kelbin V.N.[1], Skolotneva E.S.[1], Kolomiets T.M.[2], Kiseleva M.I.[2], Baranova O.A.[3]

[1] Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia

[2]All-Russian Research Institute of Phytopathology, Moscow, Russia

[3]All-Russian Institute of Plant Protection, St. Petersburg-Pushkin, Russia

AN ADVANCED APPROACH FOR IDENTIFYING THE ORIGIN OF WHEAT CROP DISEASES: STEPS

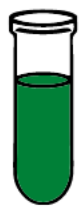
1

Preparation of single pustule isolates from infection sample

2

DNA extraction with CTAB buffer modified for stem rust

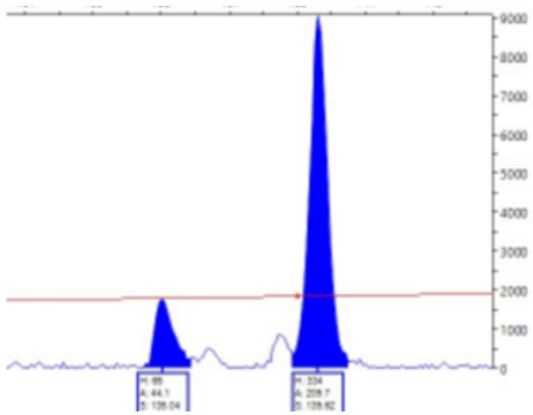
3



PCR test with primer from the diagnostic panel

AN ADVANCED APPROACH FOR IDENTIFYING THE ORIGIN OF WHEAT CROP DISEASES: STEPS

4



Marker analysis with PeakScanner softwear

5

Matching the obtaining data of allele composition and allele size with the diagnostic marker; finding out the origin of infection

Locus	Allele size	Geographical regions
Pgestssr021	190, 193	Central region
	187	Volga region
Pgestssr059	210, 228	Central region
	231	Volga region
Pgestssr173	194, 206	Central region
	173, 191	Volga region
Pgestssr227	190, 193	Central region
	187	Volga region
Pgestssr293	257	Central region
	266, 269	Volga region
Pgestssr325	259	Central region
	247, 256	Volga region
PgtCAA93	278	Central region
	275, 293	Volga region

The study was funded by the budgetary project of ICG SB RAS № 0259-2019-0001, RFBR grant №. 18-016-00170a, the budgetary project of ARRIP № 0598-2019-0001

Thank you for your attention!