

1. Potato cultivars and lines studied by AFLP analysis								
Accession number	Cultivar/Line	Ripening (year of entry to the State Register)	Tuber skin/flesh color	Resistance				
				Golden potato cyst nematode; <i>Globodera rostochiensis</i>		Late blight; <i>Phytophthora</i>	Potato Virus Y; PVY	
				resistant/susceptible	genes of resistance (by markers) <i>H1</i> , <i>Gro1-4</i> , <i>Grp1</i> [24, 25, 28]		resistant/susceptible	genes of resistance (by markers): <i>Ryadg</i> ; <i>Ryso</i> ; <i>Ryhc</i> [24, 26-28]
1	<i>Solanum stoloniferum</i> <i>W 4x</i> (Mexico)	Allotetraploid wild species, source of a number of genes valuable for breeding (CGN 17606, Centre for Genetic Resources, the Netherlands)	No data	Resistant*		Resistant*	Resistant*	
2	Avrona ¹	Mid-season (2006)	Red/Creamy	Resistant	<i>H1</i>	Moderately susceptible for haulm and tubers	No data	Not found
3	Antonina ^{4, 5}	Early (2005)	Yellow/LightYellow	Susceptible		Moderately susceptible for haulm and tubers	No data	
4	Arlekini ²⁰	Mid-early	Yellow/White	No data	<i>H1</i>	No data	No data	
5	Babushka ^{4, 20}	Mid-early (2018)	Red/LightYellow	Susceptible	<i>H1</i>	Moderately susceptible for haulm and susceptible for tubers	Resistant	Not found
6	Bravo ^{14, 15}	Mid-early (2015)	Red/LightYellow	Resistant	<i>H1</i>	Medium resistant	Resistant	Not found
7	Bylina Sibiri ²¹	Mid-season (2018)	Light beige/White	Susceptible		Moderately susceptible for haulm and tubers	No data	
8	Vasilek ⁴	Mid-early (2014)	Blue-violet/Creamy	Susceptible		Relatively resistant for haulm and tubers	Medium resistant	
9	Velikan ⁴	Mid-season (2013)	Light beige/Creamy	Susceptible		Relatively resistant for haulm and tubers	Relatively resistant	
10	Virazh ¹⁹	Mid-early (2018)	Yellow/LightYellow	Resistant	<i>H1</i>	Susceptible for haulm and moderately susceptible for tubers	Medium resistant	Not found
11	Vympel ^{4, 13}	Mid-season (2016)	Yellow/LightYellow	Resistant	<i>H1</i>	Moderately susceptible	No data	Not found
12	Gala ⁹	Mid-early (2008)	Yellow/DarkYellow	Resistant		No data	No data	
13	Golubizna ^{4, 13}	Mid-season (1993)	Light beige/Creamy	No data		Moderately susceptible for haulm and tubers	No data	<i>Ryadg</i> (highly resistant)
14	Gornyak ¹⁵	Mid-early (2015)	Yellow/LightYellow	Susceptible		Medium resistant	Resistant	
15	Gulliver ^{4, 13}	Early ripe (2018)	Light beige/Creamy	Resistant		Moderately susceptible for haulm and susceptible for tubers	Medium resistant	
16	Gusar ²⁴	Mid-season (2017)	Yellow/LightYellow	Resistant		Moderately susceptible for haulm and tubers	Resistant	<i>Ryso</i>
17	Elizaveta ^{1, 2}	Mid-early (1996)	Light beige/White	No data		Moderately susceptible, but in the years of epiphytoses it is strongly affected, tubers weakly	No data	
18	Zhigulevskii ^{4, 11}	Mid-season (2006)	Yellow/LightYellow	Susceptible		Susceptible for haulm and moderately susceptible for tubers	No data	Not found, highly resistant
19	Zhkovskii rannii ⁴	Very early (1993)	Pink/White	Resistant	<i>H1</i>	Susceptible for haulm and tubers	No data	Not found
20	Zlaka ²²	Mid-season (2017)	Yellow/LightYellow	Susceptible		Moderately susceptible for haulm and moderately susceptible for tubers	Resistant	
21	I'inskii ⁴	Mid-early (1999)	Red/White	Susceptible		Susceptible	No data	<i>Ryso</i>
22	Impala ^{10, 14}	Early ripe (1995)	Yellow/LightYellow	Resistant	<i>H1</i>	Susceptible	Weakly affected	Not found
23	Irbitskii ¹⁵	Mid-season (2012)	Red/LightYellow	Resistant	<i>H1</i>	Medium resistant	Resistant	
24	Kemerovchanin ⁵	Mid-early (2013)	Yellow/Yellow	Resistant	<i>H1</i>	Relatively resistant	No data	Not found
25	Kolobok ⁴	Mid-season (2005)	Yellow/Yellow	Susceptible		Moderately susceptible for haulm and susceptible for tubers	No data	<i>Ryso</i> (highly resistant)
26	Kortni ^{4, 17}	Mid-early (2016)	Yellow/LightYellow	Resistant	<i>H1</i>	Moderately susceptible for haulm and tubers	Resistant	Not found, highly resistant
27	Krasavchik ^{4, 14}	Mid-early (2009)	Red/Creamy	Susceptible		Resistant for tubers and medium resistant for haulm	Resistant	
28	Krepsh ⁴	Early (2005)	Yellow/Creamy	Resistant	<i>H1</i>	Moderately susceptible for haulm and tubers	No data	Not found
29	Kuznechanka ⁵	Mid-early (2009)	Red/Creamy	Susceptible		No data	No data	Not found, highly resistant
30	Lady Clair ⁷	Very early до раннего (2005)	Yellow/LightYellow	Resistant		Susceptible for haulm and moderately susceptible for tubers	No data	
31	Lina ²²	Mid-early (1998)	Yellow/White	Susceptible		Resistant for haulm and tubers	No data	
32	Lomonosovskii ²	Early ripe (2011)	Light beige/LightYellow	Susceptible		Moderately susceptible	Resistant	
33	Lyubava ^{4, 5}	Early ripe (2003)	Red/White	Susceptible		Susceptible for haulm and moderately resistant for tubers	No data	Not found, highly resistant
34	Lyuks ^{14, 15}	Early ripe (2016)	Red/Yellow	Resistant	<i>H1</i>	Moderately susceptible for haulm and susceptible for tubers	Resistant	Not found
35	Matushka ^{4, 20}	Early ripe (2013)	Red/Creamy	Susceptible		Resistant	Resistant	Not found
36	Meteor ⁴	Very early (2013)	Yellow/LightYellow	Resistant	<i>H1</i>	Relatively resistant for leaves and highly resistant for tubers	Medium resistant	<i>Ryso</i> , <i>Ryhc</i> (highly resistant)
37	Nakra ^{4, 5}	Mid-season (2000)	Red/LightYellow	Susceptible		Moderately susceptible for haulm and tubers	No data	<i>Ryso</i> (highly resistant)
38	Newskii ²	Mid-early (1982)	Light beige/White	No data		Moderately susceptible for haulm and tubers	No data	
39	Newton ⁶	Early ripe (2011)	Light beige/Yellow	Resistant		Resistant	No data	
40	Pamyati Rogacheva ^{4, 5}	Mid-early (2005)	Yellow/LightYellow	Weakly affected		Moderately susceptible for haulm and moderately resistant for tubers	No data	
41	Reggi ¹⁸	Early ripe (2016)	Yellow/LightYellow	Susceptible		Moderately susceptible for haulm and tubers	Resistant	
42	Red Scarlett ⁸	Early ripe (2000)	Red/Yellow	Resistant		Susceptible for haulm and moderately susceptible for tubers	No data	Not found
43	Russkij suvenir ^{4, 20}	Mid-early (2005)	Yellow/Creamy	Susceptible		Resistant for haulm and moderately resistant for tubers	No data	<i>Ryhc</i>
44	Samba ^{4, 18}	Mid-early (2019)	Yellow/LightYellow	Susceptible	<i>H1</i> , <i>Gro1-4</i>	Susceptible for haulm and moderately susceptible for tubers	Resistant	Not found
45	Sarovskii ^{4, 5}	Early ripe (2014)	Red/Yellow	Resistant	<i>H1</i>	Moderately susceptible	Resistant	Not found
46	Saturna ¹⁰	Mid late (2005)	Yellow/LightYellow	Resistant		Moderately susceptible for haulm and moderately resistant for tubers	No data	
47	Safo ²²	Mid-early (2009)	Light beige/Creamy	Resistant		No data	Resistant	
48	Solnechnyi ^{4, 5}	Mid-season (2006)	Yellow/ Yellow	Weakly affected		No data	No data	
49	Start ¹⁶	Mid-season	Yellow/White	No data	<i>H1</i>	Resistant**	Resistant**	Not found
50	Sudarynya ²	Mid-early (2009)	Yellow/LightYellow	Resistant	<i>H1</i> , <i>Gro1-4</i>	Resistant in field conditions***	Not affected by severe viral infection***	<i>Ryso</i>
51	Tana ¹⁸	Mid-early (2011)	Yellow/ Yellow	Resistant		Medium resistant	Medium resistant	
52	Tango ¹⁸	Late ripening	Red/Yellow	No data		Resistant	No data	Not found
53	Tulevskii ^{4, 5}	Mid-season (2006)	Yellow/ Yellow	Susceptible		Moderately resistant for haulm and moderately susceptible for tubers	No data	
54	Udacha ⁴	Early ripe (1994)	Light beige/White	No data		Moderately susceptible for haulm and moderately resistant for tubers	No data	
55	Favorit ^{4, 12}	Mid-season (2014)	Red/Creamy	Resistant		Relatively resistant	Relatively resistant	Not found
56	Fioletovii ⁴	Mid late (2014)	Blue-violet/Blue-violet	Susceptible		Relatively resistant for leaves and tubers	Relatively resistant	Not found
57	Fritella ^{4, 13}	Mid-season (2016)	Light beige/Creamy	Susceptible		Moderately susceptible for haulm and tubers	No data	<i>Ryadg</i>
58	Charodei ^{2, 3}	Mid-early (2000)	Yellow/White	Susceptible	<i>Grp1</i>	Moderately resistant	No data	
59	Charoi ^{2, 24}	Very early (2014)	Yellow/LightYellow	Susceptible		Medium resistant	Medium resistant	
60	Yugana ^{4, 5}	Mid-season (2011)	Yellow/LightYellow	Susceptible		Resistant	No data	
61	Yuna ²²	Early ripe (2014)	Light beige/Yellow	Resistant		No data	Resistant	
62	21/8516 ²	Mid-early	No data	No data		No data	No data	
63	25/861 ²	Mid-early	No data	No data		No data	No data	
64	3-43-21 ⁸	No data	No data	No data		No data	No data	
65	C-112-03 ²³	No data	No data	No data		No data	No data	
66	3-43-61 ⁸	No data	No data	No data		No data	No data	

Note. The cultivar name and other data (resistance, tuber color) are given according to the State Register of Breeding Achievements Permitted for Use (RF, 2020; <http://reestr.gossortrf.ru/reestr/culture/159.html>). The type of resistance to pathogens is not indicated in the State Register. Presumably, in the case of late blight, the vertical (or genetic) type of resistance is meant rather than the field (horizontal or non-specific) type. For some cultivars, data on the type of resistance to PVY and nematode are given according to other sources (24-28).

*According to R. Machido-Hirano, 2015 [34].

**According to FRC All-Russian Research Institute of Agricultural Economics.

***According to FSBSI Leningrad Research Institute of Agriculture "Belogorka".

Originators of cultivars and lines:

¹ Vsevolozhskaya breeding station LLC

² FSBSI Leningrad Research Institute of Agriculture "Belogorka"

³ FSBSI N.I. Vavilov Institute of General Genetics

⁴ FSBSI A.G. Lorkh VNIKH

⁵ FGBUN Siberian Federal Research Center of Agrobiotechnology RAS

⁶ USA, FRITO-LAY NORTH AMERICA, INC.

⁷ Netherlands, CMEIJER BV

⁸ Netherlands, HZPC HOLLAND BV

⁹ Germany, NORIKA NORDRING-KARTOFFELZUCHT-UND VERMEHRUNGS-GMBH

¹⁰ Netherlands, AGRICO UA

¹¹ FSBSI Tulaykov Samara Research Institute of Agriculture

¹² McCain Agriculture LLC (rus.)

¹³ LLC Agrocenter Korenevo

¹⁴ LLC Agrofirma Krimm

¹⁵ FSBSI Ural Research Institute of Agriculture

¹⁶ SSO Smolensk Research Institute of Agriculture RAAS, SSO Engelhardt Smolensk State Regional Agricultural Experimental Station

¹⁷ Federal Research Center Kazan Scientific Center RAS

¹⁸ FSBSI Tatar Research Institute of Agriculture

¹⁹ FSBSI Rudnitsky Federal Agrarian Scientific Center of the North-East

²⁰ FSBSI Penza Scientific Research Institute of Agriculture

²¹ FSBSI Omsk Scientific Agrarian Center

²² FSBSI Federal Research Center Institute of Cytology and Genetics SB RAS

²³ FGBUN Siberian Research Institute of Agriculture SB RAS

²⁴ LLC Breeding firm "LiGa"