

Phenotypic and DNA marker-assisted characterization of Russian potato cultivars for resistance to potato cyst nematodes

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Supplementary Material

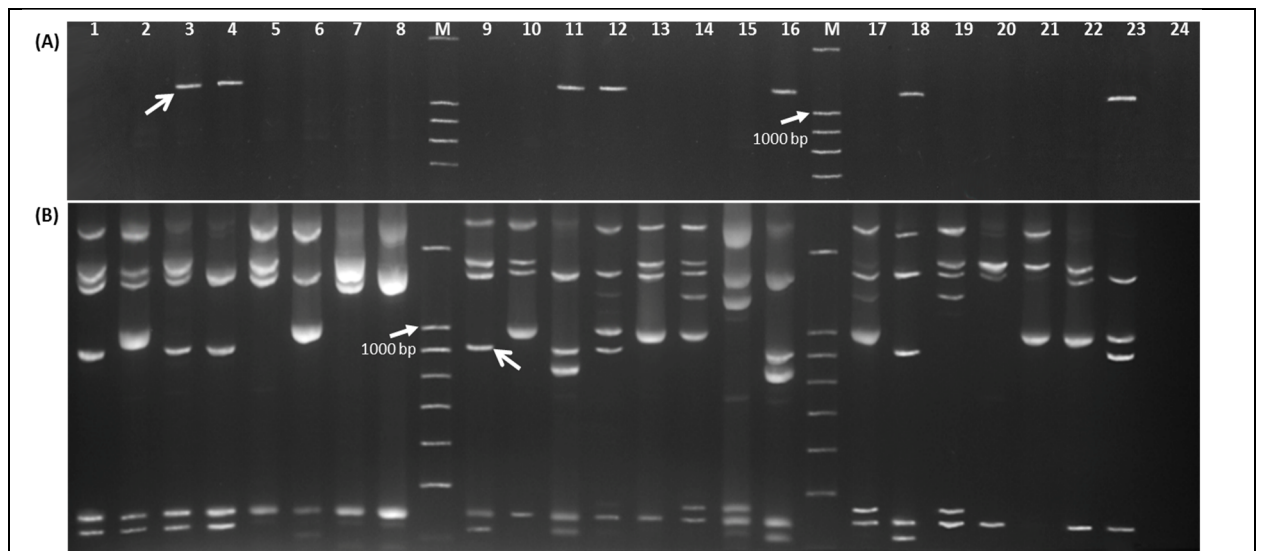


Figure S1. Diagnostic bands of markers (indicated by an arrow) for identification of *Gpa2* gene. (A) marker Gpa2-1: 1 – Antonina; 2 – Grand; 3 – Vympel; 4 – Alyj parus; 5 – Nakra; 6 – Tango; 7 – Red Lady; 8 – Queen Anne; 9 – Labella; 10 – Samba; 11 – Sirenevij tuman; 12 – Čaroit; 13 – Damaris; 14 – Estrella; 15 – Nevskij; 16 – Danaâ; 17 – Gusar; 18 – Meteor; 19 – Naâda; 20 – Red Scarlett; 21 –Evraziâ; 22 – Alouette; 23 – Utro ; 24 – negative control (H2O). (B) 77R/HaeIII: 1 – Cara; 2 – Innovator; 3 – Vympel; 4 – Alyj parus; 5 – Nakra; 6 – Tango; 7 – Red Lady; 8 – Queen Anne; 9 – Cara; 10 – Innovator; 11 – Meteor; 12 – Čaroit; 13 – Plamâ; 14 – Grand; 15 – Alouette; 16 – Meteor; 17 – Gusar; 18 – Danaâ; 19 – Evraziâ; 20 – Lomonosovskij; 21 – Naâda; 22 –Red Scarlett; 23 – Utro ; 24 – negative control (H2O). M – molecular marker 100 bp + 1.5 Kb DNA Ladder.

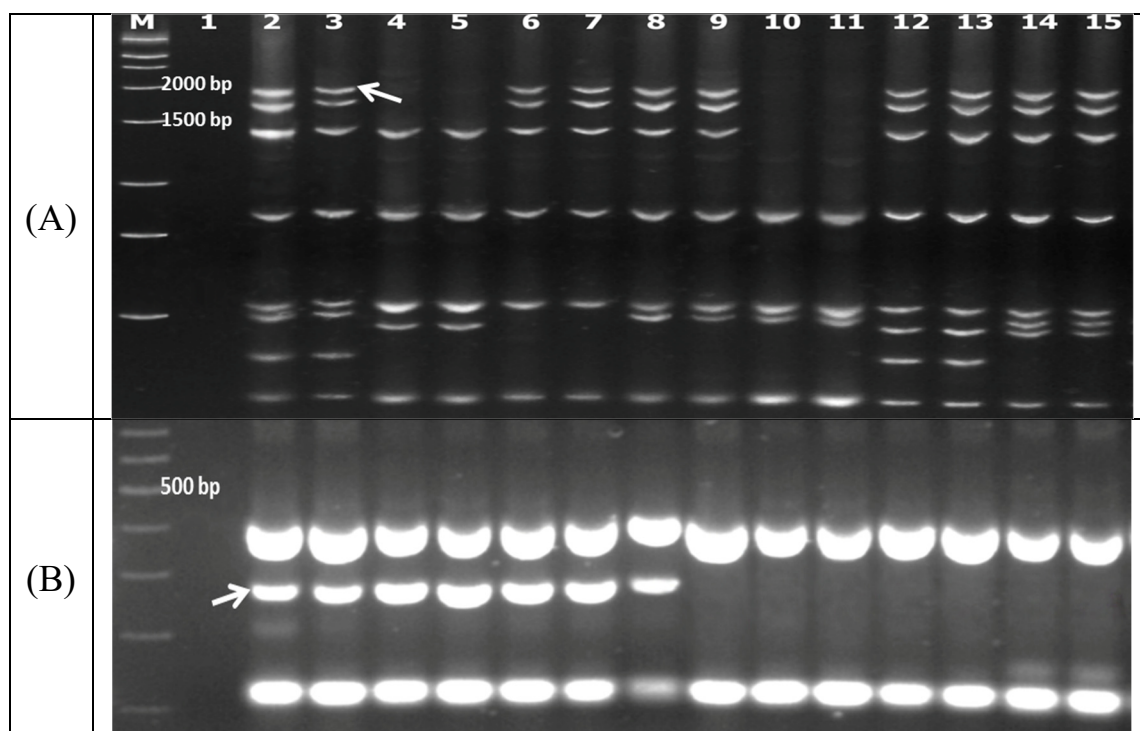


Figure S2. Diagnostic bands (indicated by an arrow) of TG432/RsaI (A) and GP179/RsaI (B) markers for identification of *Grp1_QTL*. 1 – negative control (H₂O); 2 - Holmogorskij; 3 - Krasavčik; 4 - Grand; 5 - Gusar; 6 - Nakra; 7 - Samba; 8 - Meteor; 9 - Nevskij; 10 - Čaroit; 11 - Čaroit; 12 - Danaâ; 13 - Utro; 14 – Queen Anne; 15 - Estrella. M - molecular adder.

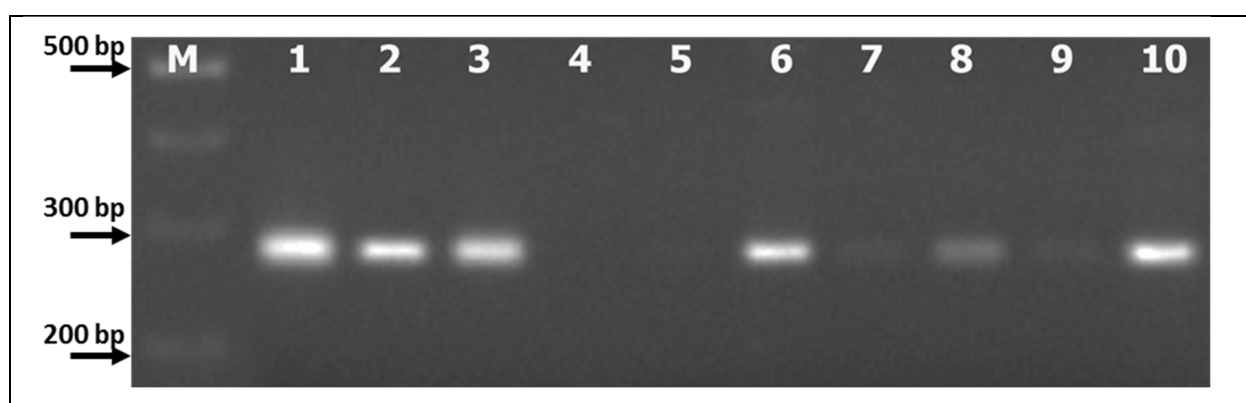


Figure S3. Diagnostic bands of HC marker for identification of *GpaV_{vrn}_QTL* locus. 1 - Innovator; 2 – Lomonosovskij; 3 – Danaâ; 4 - Alouette; 5 – Plamâ; 6 - Tango; 7 – Naâda; 8 - Antonina; 9 - Krasavčik; 10 – Red Scarlett. M - molecular marker 100 bp + 1.5 Kb DNA Ladder.

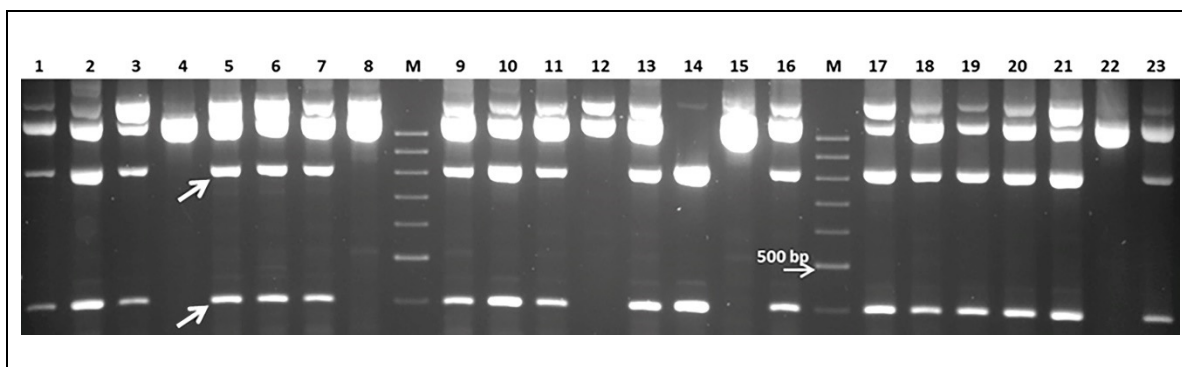


Figure S4. Diagnostic band of GP21/DraI marker (indicated by the arrows) for identification of *Grp1_QTL*. 1 - Cara; 2 - Innovator; 3 - Vympel; 4 - Alyj parus; 5 - Nakra; 6 - Tango; 7 - Red Lady; 8 - Queen Anne; 9 - Kolobok; 10 - Liga; 11 - Meteor; 12 - Čaroit; 13 - Plamâ; 14 - Grand; 15 - Alouette; 16 - Samba; 17 - Gusar; 18 - Danaâ; 19 - Evraziâ; 20 - Lomonosovskij; 21 - Naâda; 22 - Nevskij; 23 - Utro. M - molecular marker 100 bp + 1.5 Kb DNA Ladder.

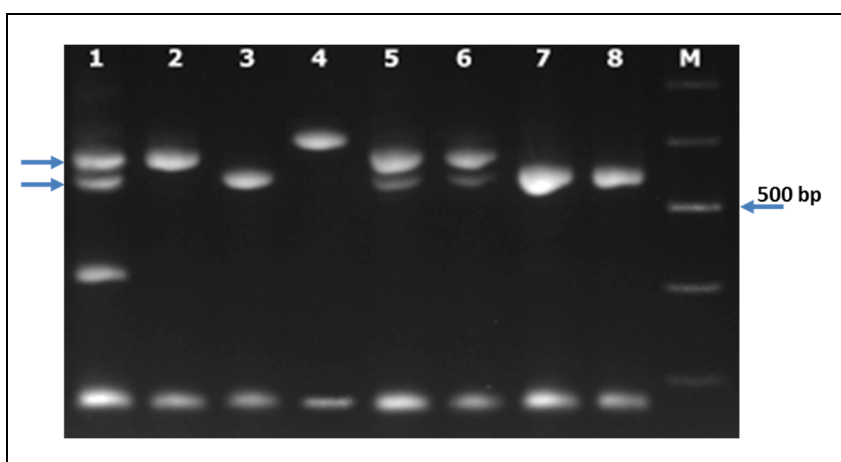


Figure S5. Diagnostic bands of markers GP34/TaqI (indicated by the arrows) for identification of *Gpa2* gene. 1 - Cara; 2 - Innovator; 3 - Danaâ; 4 - Čaroit; 5 - Vympel; 6 - Grand; 7 - Alouette; 8 - Naâda; M - molecular marker 100 bp + 1.5 Kb DNA Ladder.

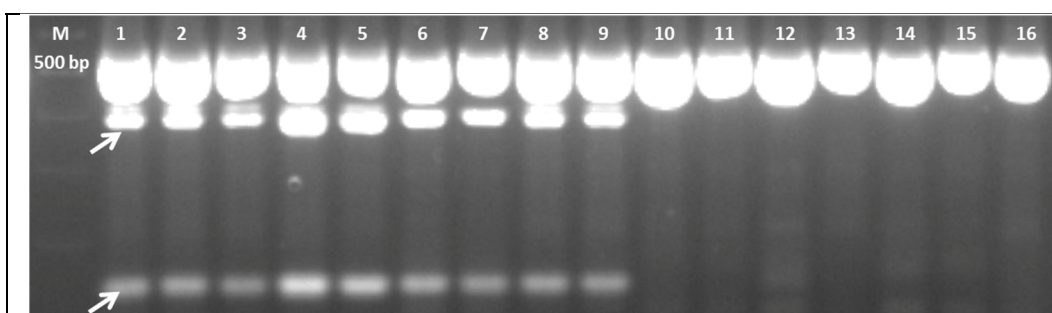


Figure S6. Diagnostic bands (indicated by the arrows) of markers GP179/EcoRV for locus *GpaV_{Sspl}_QTL*. 1 - Antonina; 2 - Evraziâ; 3 - Gusar; 4 - Grand; 5 - Holmogorskij; 6 - Alyj parus; 7 - Lomonosovskij; 8 - Meteor; 9 - Liga; 10 - Čaroit; 11 - Queen Anne; 12 - Utro; 13 - Estrella; 14 - Labella; 15 - Nevskij; 16 - Danaâ. M - molecular marker 100 bp + 1.5 Kb DNA Ladder

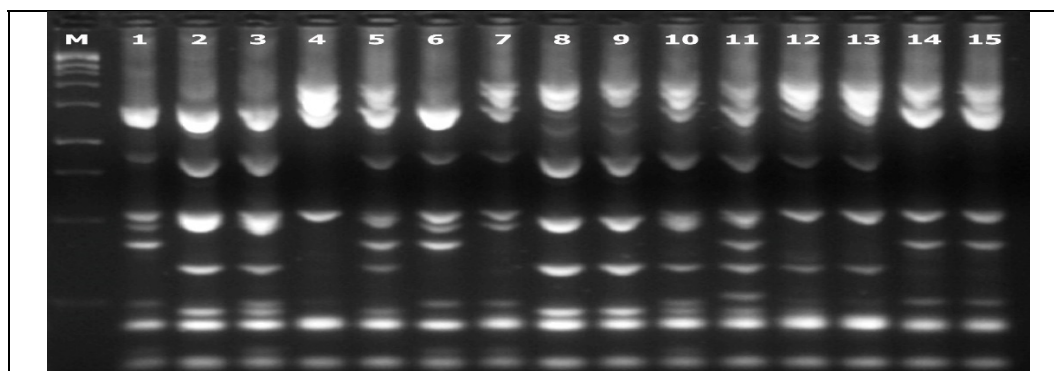


Figure S7. Restricted *Dra*I- fragments of PCR-products amplified from potato cultivars' DNA used primers TG432.