

# The 11th World Potato Congress

30 May - 2 June 2022, Dublin, Ireland



WPC2022IRELAND  
30<sup>th</sup> MAY - 2<sup>nd</sup> JUNE 2022  
[www.wpc2022ireland.com](http://www.wpc2022ireland.com)



WORLD POTATO  
CONGRESS

# **World Potato Congress 2022**

## **Dublin, Ireland**

# **Presentation Summaries and Speaker Biographies**

---

P-036

## Sensitivity of different potato cultivars to the presence of *Ralstonia solanacearum* bacteria in *in vitro* cultures

Włodzimierz Przewodowski<sup>1</sup>, Dorota Szarek<sup>1</sup>, Dorota Michalowska<sup>1</sup>, Grzegorz Gryn<sup>2</sup>, Katarzyna Salamonska<sup>1</sup>, Małgorzata Łabańska<sup>1</sup>, Agnieszka Przewodowska<sup>3</sup>

<sup>1</sup>Plant Breeding and Acclimatization Institute - National Research Institute, Bonin, Poland. <sup>2</sup>Plant Breeding and Acclimatization Institute - National Research Institute, Bydgoszcz, Poland. <sup>3</sup>PMHZ, Strzekecin, Poland

### Overview

The presence in potatoes' dangerous diseases caused by numerous pathogens is usually associated with significant economic losses.

Particularly troublesome for potato cultivation are quarantine diseases, including bacterial wilt of potato, caused by *Ralstonia solanacearum* (Rs) (Smith) Yabuuchi et al. - one of the most important quarantine potato pathogens.

There are several factors that can stimulate the uncontrolled spread of *R. solanacearum* in the environment. One of them is the lack of an effective biological or chemical method of utilization of those in potato tissue. Moreover, *R. solanacearum* is capable of infecting more than 200 species of various plants and, although it is a thermophilic pathogen, it can relatively easily adapt to colder climates. In the era of progressive climate change related to global warming and the occurring drought, the more and more frequently used irrigation of plantations favors the uncontrolled spread of Rs bacteria, which can survive and move in the water. The presence of *R. solanacearum* in low concentrations in potato tissue is particularly dangerous, as is the inhibition of symptoms of infection by tolerant cultivars, which in turn contributes to the rapid spread of these pathogens in the environment.

In all of the above cases, these bacteria put future potato generations at risk.

Therefore, the purpose of the presented research was to determine the sensitivity of different potato cultivars to the presence of *Ralstonia solanacearum*. Due to the high level of the disease expression symptoms and the simplicity of multiplication, potato varieties in form of *in vitro* cultures were used for research. The obtained results allowed for the determination of the influence of the examined *Ralstonia solanacearum* strains, on the level of expression symptoms on the tested *in vitro* plants and for comparison with the obtained result of the molecular test.

Author name	Programme Codes*
Milbourne, Dan	<u>C-07</u>
Mohanty, Samarendu	<u>F1-09</u>
Mommaerts, Veerle	<u>F2-13</u>
Mullins, Ewen	<u>F3-12</u>
Nedrow, Bret	<u>F3-02</u>
Newbert, Max	<u>F1-06</u>
Ng'lumbi, Ernest	<u>P-077</u>
Nintije, Pierre	<u>P-063</u>
Nyambura, James	<u>P-057</u>
O'Riordan, Alan	<u>F2-04</u>
O'vari, Elizabeth	<u>F1-01</u>
Ojeda, Nicolas	<u>P-010</u>
Oke, Michael	<u>14, 15</u>
Olsen, Nora	<u>F2-05</u>
Otiniano, Jose Ronal	<u>F1-04</u>
Oyoo, Judith	<u>P-043</u>
Paluchowska, Paulina	<u>P-033</u>
Parker, Monica	<u>P-087, F2-01</u>
Payrastre, Laure	<u>F1-13</u>
Plich, Jarosław	<u>P-041, P-100</u>
Porter, Cedric	<u>PL-07</u>
President, Europatat	<u>C-02</u>
Przewodowski, Włodzimierz	<u>P-036</u>

Author name	Programme Codes*
Quiroga, Gabriela	<u>F3-15</u>
Ravensbergen, Arie	<u>P-011</u>
Retta, Mesfin Kebede	<u>F3-14</u>
Rocha, Ramiro	<u>P-046</u>
Rocha-Rodriguez, Ramiro	<u>P-045</u>
Roulston, Derek	<u>F2-08</u>
Ruiz de Galarreta, Jose Ignacio	<u>P-006</u>
Sangha, Jang Bahadur Singh	<u>F1-10</u>
Sanzo-Miró, Marta	<u>P-031</u>
Schulte-Geldermann, Elmar	<u>F2-14</u>
Scott, Lauren M	<u>PL-08</u>
Shannon, Laura	<u>F3-11</u>
Sharma, Ayush	<u>P-002</u>
Shem, Charles	<u>P-069</u>
Silvestre, Rocio	<u>P-101</u>
Skea, Andrew	<u>F2-16</u>
Skrabule, Ilze	<u>P-015</u>
Slinde, Erik	<u>P-084</u>
Sood, Salej	<u>P-105</u>
Stalham, Mark	<u>F3-06</u>
Stephen, Tindimubona	<u>P-055</u>
Struik, Paul	<u>PL-12</u>