

==== POSTER ABSTRACTS ====

**The State of the Art in Inducing PVY Resistance into Potato Cultivars  
by Biotechnological Methods**

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Inducing resistance to pathogens in different crops was a continuous concern of the researchers and several biotechnological methods have been developed. Due to its high economic importance, potato raised a huge interest in developing such researches and having a significant contribution in refining of several methods. One of the most threatening pathogen of potato is represented by potato virus Y (PVY), this being able to jeopardize up to 80% of the crop yield. The high variability of PVY, as a result of naturally raised mutations or recombination was a continuous challenge, very often leading to overcoming the resistance of different potato cultivars. Today potato virus Y has a high genetic variability with a significant number of strains: PVY<sup>0</sup>, PVY<sup>C</sup>, PVY<sup>Z</sup>, PVY<sup>N</sup>, PVY<sup>NTN</sup>, and PVY<sup>N-W</sup>. The last two strains: PVY<sup>NTN</sup> (N-tuber-necrosis) and PVY<sup>N-W</sup> (N-Wilga) have a rapid spread and produce Potato Tuber Necrotic Ringspot Disease (PTNRD), affecting both leaves and tubers, and hence producing very height yield loses.

Two major approaches for inducing resistance to PVY in potato were performed, one of it is based on pathogen derived resistance (genetic transformation) and the other one relies on the host derived-resistance (somatic hybridization, cis-genesis or intragenic improvement). The application of both strategies is facilitated by the good response of potato to *in vitro* culture, several successes being

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encountered. The aim of the present study was to review the progresses that have been made in the field and to highlight the new direction in obtaining resistance to PVY by “genetically modified” elite potato.

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