

BEHAVIOR OF SEVERAL POTATO (*SOLANUM TUBEROSUM* L.) VARIETIES WITH DIFFERENT STARCH CONTENT TO POTATO TUBER NECROTIC RINGSPOT DISEASE

C. L. Badarau¹, F. Damsa, G. Olteanu, S. Chiru

Introduction Obtaining good quality for potato impose the improvement of identification's techniques of pathogen agents, knowing the biochemical composition, especially the components that could affect its health status. The goal of this research was to evaluate the starch content of 10 potato samples (varieties with different resistance to potato virus Y) and the behavior of these samples to the disease caused by PVY^{NTN}.

Material and methods The potato varieties tested were Christian, Roclas, Productiv (roumanian cv.) and Red Fantasy, Jelly, Desire, Bellarosa, Red Lady, Hermes (foreign cv.). After emergence, the material has been mechanically inoculated, using an Y^{NTN} source (secondary infected plants from Hermes variety). After the inoculation, disease symptoms were observed and ELISA tests have been made. The percentage of tubers with necrotic symptoms was estimated at harvesting time and after 3 months. The starch content was made using Evers method.

Results Excepting the cultivars Christian and Riviera wich were very resistant and resistant to mechanical inoculation, all the other varieties presented 69-100% infected plants. After 3 months from harvesting, the frequency of tubers with symptoms was between 3.3-20.8% for varieties Roclas, Red Fantasy, Bellarosa, Jelly and for varieties Productiv, Desire, Red Lady, Hermes this percentage was higher (69-100%). Regarding the varieties Christian and Riviera, after 3 months from harvest, the stored tubers didn't have visible tuber necrotic ringspot disease symptoms.

Conclusions There is a positif correlation between the starch content of the samples and their resistance to PVY^{NTN} inoculation.

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Keywords: *potato virus Y, necrotic strains, starch.*

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Foreword

*The quality of each person's life, as well as the entire evolution of a society, depends on the nutrition and psychical health of the human being. The world is nowadays confronted with a demographic explosion, concomitantly with a planet-wide accentuation of agricultural and food deterioration. This is the reason why we have to be prepared, **in the XXI-th century**, to face the Global and Local Challenges in Food Science and Technology, generated by the the quantitative and qualitative food-related needs.*

Under this thema, more than 200 papers were received on the topics of food production, food processing, food quality and safety, nutrition, engineering and design, innovative technologies.

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*A number of selected papers presented at **3rd NEEFOOD Congress** will be published by Elsevier. This selection will be done by the Congress Chairs, among the papers actually presented at the conference, based on a rigorous review by the Scientific Committee members.*

The program for this conference required the dedicated effort of many people. Firstly, we must thank the authors, whose research efforts are herewith recorded. Secondly, we thank the members of the Scientific Committee and the additional reviewers for their diligent and professional reviewing. Last but not least, we thank the invited speakers for their invaluable contribution and for taking the time to prepare their talks.

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