

International Agrophysics

Polish Journal of Soil Science

Acta Agrophysica

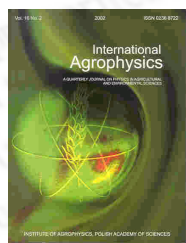
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International Agrophysics

publisher: Institute of Agrophysics
Polish Academy of Sciences
Lublin, Poland

ISSN: 0236-8722

vol. 22, nr. 3 (2008)

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Mechanical properties of tubers[\(get PDF\)](#) Sadowska J.¹, Vacek J.², Palacios M.C.³, Fornal J.¹¹ Institute of Animal Reproduction and Food Research, Polish Academy of Sciences, ul. Tuwima 10, 10-747 Olsztyn, Poland² Potato Research Institute, 580-01 Havlickův Brod, Czech Republic³ Instituto de Agroquímica y Tecnología de Alimentos (CSIC), Burjassot, Spain

vol. 18 (2004), nr. 4, pp. 347-354

abstract An investigation into the influence of genetic modification on potato tubers should include physical characteristics affecting their technological use. The mechanical properties of potato tubers of 15 clones of cultivar Irga transformed with viral genome sequences to improve their resistance to a necrotic strain of potato virus Y (PVYN) were determined using a compression test. The mechanical properties were expressed by fracture stress, F (kPa); fracture strain, D (%); and Young's modulus, E (kPa). The variability of F , D , and E for particular clones measured by standard deviation was extremely high. However, the influence of the modification type and breeding year appeared to be statistically significant but irregular during the three-year cultivation. While the effect of cultivation year was unmistakable, the order of values for the particular clones was not constant in the successive years.