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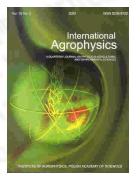
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Cell structural parameters of potato tuber tissue

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Konstankiewicz K., Czachor H., Gancarz M., Król A., Pawlak K., Zdunek A.

Institute of Agrophysics, Polish Academy of Sciences, Doświadczalna 4, P.O. Box 201, 20-290 Lublin 27, Poland

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abstract The present study reviews results of research on the quantitative determination of cell structural parameters such as: surface area, perimeter, Ferret's diameters, elongation, compaction, for the parenchyma of potato tuber, taking into consideration inner and outer core tissues. Tissue images were obtained for the samples in their natural state without any preparation using an optic confocal microscope. The quantitative analysis of the microscopic image of the cross-sections of the cell's structure, was carried out according to the method worked out by the present authors earlier. Four potato varieties were chosen for the present experiment (Danusia, Kuba, Miła, Triada), in three consecutive crop years in the conditions selected (1999, 2000, 2001) and with a controlled storage system. Our studies showed that the quantitative structure described by means of cell size and shape parameters is a characteristic feature of potato tuber tissues, outer and inner core, for a given variety and harvest date. The size of cells changes, whereas their shape is similar in each variety, type of core and harvest date.

keywords cell structural parameters, image analysis, potato-tuber tissue, inner and outer core of potato-tuber parenchyma

Instytut Agrofizyki PAN
ul. Doświadczalna 4
20-290 Lubline-mail: sekretariat@ipan.lublin.pl
tel.: +48817445061
fax: +48817445067