

International Agrophysics

Polish Journal of Soil Science

Acta Agrophysica

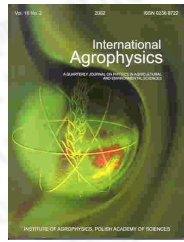
Instytut Agrofizyki

International Agrophysics

General information

Issues

Search



International Agrophysics

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

ISSN: 0236-8722

vol. 22, nr. 3 (2008)

[previous paper](#) [back to paper's list](#) [next paper](#)

Conventional coefficient of elasticity for sugar beet roots

[\(get PDF !\[\]\(56549452e01ca28bdf2500ced9653143\_img.jpg\)\)](#)

M. Brzowska-Bakalarz

Institute of Agricultural Mechanization, University of Agriculture, Głęboka 28, 20-612 Lublin, Poland

vol. 12 (1998), nr. 3, pp. 192-198

abstract One of the more important mechanical characteristics of sugar beet roots is the conventional coefficient of elasticity. It is a modulus describing elasticity a basic parameter classifying quality of raw material that is strictly connected with the tissue turgor. A static experiment on compression was carried out using Instron testers on a range of sugar beet varieties grown with differentiated doses and types of nitrogen fertilizers, and tested in differentiated periods. The present studies were conducted in 5 stages, and at each of them the influence of different factors on the values of the conventional elasticity coefficient obtained was considered. The conventional elasticity coefficient does not belong to the variety characteristics of sugar beet roots. Influence of the nitrogen type and dose depended on meteorological conditions within the vegetation period and during storage root. With the increase in the degree of wilting ( $z$ ) the conventional coefficient of elasticity lower. The values of the elasticity coefficient are significantly dependent on the alignment of bundles of sieve tissue in relation to the direction of free application, and on the type of tissue. Coefficients obtained for the speeds higher than 10 mm/min should distinguished and called instantaneous.

keywords sugar beet, root, coefficient of elasticity

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