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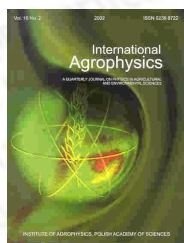
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Significance of geometrical and physical features for genetic analysis of trials determining lodging resistance

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Jeżowski S.

Institute of Plant Genetics, Polish Academy of Sciences, Strzeszyńska 34, 60-479
Poznań

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abstract In the paper 28 lines of doubled haploids (DH) produced from F1 hybrids Aramir x EP79 were investigated under field conditions. Lodging degree was estimated in the field applying a 9-grade scale (where 1 means no lodging and 9 the highest degree of lodging). The geometrical stalk features evaluated in the experiment included: stalk length its external diameter and wall thickness. However, some physical stalk features were judged employing ultrasound method and are described as values of elasticity index (Young's modulus). The data presented in the paper have showed that stalk elasticity seems to be the most variable feature of DH lines populations. A genetic analysis showed the significance of the additive gene action effects for all the studied geometrical and physical traits of stalk.

keywords *Hordeum vulgare* L., genetic parameters, lodging resistance, Young's modulus