

UDC: 633.16-152.632
COBISS.SR-ID: 228211980
Original research paper



Acta Agriculturae Serbica, Vol. XXI, 42 (2016); 99-106

Plant height and internode length as components of lodging resistance in barley

**Milomirka Madić¹, Desimir Knežević², Aleksandar Paunović¹,
Dragan Đurović¹**

¹ *University of Kragujevac, Faculty of Agronomy, Cara Dusana 34, 32000
Cacak, Republic of Serbia (e-mail address: mmadic@kg.ac.rs)*

² *University of Priština, Faculty of Agriculture, Kosovska Mitrovica - Zubin
Potok – Lešak, Kopaonička bb, 38219 Lešak, Kosovo and Metohija, Serbia,
(e-mail address: deskoe@ptt.rs)*

Abstract: With the total acreage of 50 million ha and an annual production of about 140 million tonnes, barley ranks high in world cereal production. Selection of new cultivars is mostly associated with a particular ideotype designed by the breeder in line with the targets and goals specified. Although grain yield is an ongoing objective in creating new cultivars, breeding work on barley is further expanded to include other traits, primarily grain quality and lodging resistance. Lodging resistance is largely determined by the genetic background of certain stem properties (length, strength and flexibility) and root system development i.e. structure. The degree of lodging resistance in barley is significantly affected by the morphological traits of aboveground parts (stem length, strength and flexibility; stem wall thickness; length, number and weight of internodes; spike size and spike weight). The new cultivars of winter malting barley currently used by producers are generally characterized by very good lodging resistance and an average plant height of 90 to 100 cm. Breeding spring malting barley has resulted in an optimal height (about 80 cm). Further changes should focus on increasing stem thickness and changing the anatomical structure to ensure sufficient stem strength.

Key words: barley, lodging, resistance, stem properties.

Received: 24.09.2016. Accepted: 13.11.2016.