COMPARATIVE ANALYSIS OF TWO-ROW WINTER BARLEY VARIETIES IN A SMALL-PLOT TRIAL

Dániel Gaganetz[1*], József Csajbók[2]

[1]Kálmán Kerpely Doctoral School of Crop Sciences and Horticulture, University of Debrecen, HUNGARY
[2]Institute of Crop Sciences, Faculty of Agricultural and Food Sciences and Environmental Management, University of Debrecen, HUNGARY

*corresponding author: gaganegtz.daniel@agr.unideb.hu

During the 2022/2023 growing season, we conducted a small-plot field experiment to assess three two-row winter barley (Hordeum vulgare L.) varieties. Instrumental measurements were taken four times throughout the growing season, and post-harvest assessments were conducted. Significant differences were observed among the varieties of terms of protein content, NDVI (Normalized Difference Vegetation Index) values, and LAI (Leaf Area Index) values. Among the yield components, only thousand kernel weight showed significant differences. NDVI and LAI values were closely related to the protein content of barley varieties, and LAI and NDVI values measured at the BBCH 61-79 stages exhibited a strong correlation with a thousand kernel weight. NDVI values measured at BBCH 39-55 stages correlated with the number of ears per square meter. We confirmed a negative correlation between yield and protein content. Significant differences in LAI values among varieties were only evident in later stages of vegetation, while NDVI values differed consistently throughout the vegetation period. The Casanova genotype demonstrated the highest yield, while the KH Korsó yielded the lowest. The Mv Fáta genotype had the highest protein content, whereas the KH Korsó had the lowest.