

# COMPARATIVE ANALYSIS OF TWO-ROW WINTER BARLEY VARIETIES IN A SMALL-PLOT TRIAL IN 2024

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Globally, barley (*Hordeum vulgare* L.) is cultivated on approximately 47.15 million hectares, ranking as the fifth most extensively grown crop (FAOSTAT, 2022). In Europe, the agricultural sector is increasingly challenged by the accelerating impacts of climate change, necessitating the urgent adoption of sustainable production practices to safeguard food security (Werner et al., 2018). Consequently, the utilization of optimally adapted genotypes is imperative. During the 2023/2024 growing season, we conducted a small-plot field experiment to assess three two-row winter barley varieties. Instrumental measurements were taken three times throughout the growing season, followed by post-harvest assessments. Significant differences were observed among the varieties in terms of NDVI (Normalized Difference Vegetation Index) values, SPAD (relative chlorophyll content) values, LAI (Leaf Area Index) values, and assimilation rate values. We confirmed a negative correlation between yield and protein content. Significant differences in LAI values among varieties were only evident in the early stages of vegetation, whereas NDVI and assimilation rate values differed consistently throughout the entire vegetation period. The KH Korsó genotype demonstrated the highest yield, while Casanova had the lowest. The Mv Fáta genotype exhibited the highest protein content, whereas KH Korsó had the lowest.