



**XII INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES**

BOOK OF ABSTRACTS

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**24-26, May, 2023
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Estimation of yield potential of local wheat landraces with NDVI, flag leaf area and chlorophyll content

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Abstract

Plant genetic resources are a valuable, but largely unexplored pool of potentially useful traits that could be useful for crop improvement for more resilience to fluctuating climates. Traditional varieties and landraces are, in general, well adapted to local environments, but usually mature late and have low yield, one of the most valued trait among both breeders and farmers. The aim of this study was to evaluate 30 local Serbian landraces and obsolete varieties for yield potential, earliness (as flowering time), and ability to remobilize nutrients to the grain, and to determine their correlations with NDVI, flag leaf area and chlorophyll content. A two-year field trial with 5 m² plots in three replications was performed at the experimental station at Rimski Šančevi, Novi Sad, Serbia. The yield, dry matter remobilisation efficiency (DMRE) and contribution (DMRC) were in positive correlations with NDVI, flag leaf area and chlorophyll content. Flowering time was negatively correlated to all other traits. The genotypes were separated as low (9 t/ha). Despite the negative correlation between the flowering time and other traits, a several genotypes (landrace L285, varieties Novosadska crvenka, Hibrid 0.13 and Partizanka) showed earliness (130-133 days), high yields (9.11-9.88 t/ha), and high or medium DMRE (0.36-0.44) and DMRC (0.55-0.62) and harvest indices (0.55-0.60). Those varieties also had medium or, in case of L285, low flag leaf areas. The results indicated that this is an interesting potential breeding material being worthwhile for further investigations.

Key words: evaluation, genetic resources, landraces, *Triticum aestivum* L., wheat

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resources towards increased sustainability of grain-value chain and improved farmers' livelihoods in Serbia and Bulgaria-GRINEFIT”.