

MORPHOLOGICAL CHARACTERIZATION OF DURUM WHEAT (TRITICUM DURUM L.) LANDRACES FOR ZYMOTRITIC RESISTANCE

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Durum wheat is a very important crop in the Mediterranean region and especially in Tunisia where it represents the main source of staple food. Collected from the proximity to the center of origin of wheat, Mediterranean landraces have shown large genetic diversity and are therefore a valuable resource for increasing the genetic variability and biotic/abiotic crop adaptation of modern varieties. Tunisia is known as a hot spot for Septoria tritici blotch disease (STB), caused by the fungus *Zymoseptoria tritici* (*Z. tritici*). In this study, we assessed the genetic diversity of 315 durum wheat landraces from the USDA National Plant Germplasm System repository. This collection covers different Mediterranean countries including Tunisia, Algeria, Morocco, Portugal, Italy, and Spain.

Agronomic data such as plant height (PH), heading date (HD) and area under disease progress curve (AUDPC), were recorded for two cropping seasons (2016–2017 and 2018–2019) under field conditions in Kodia, Tunisia. Pearson's correlation coefficient was highly significant between the two repeated trials with 0.511 and 0.417 for adult plant resistance to STB and plant height for both years, respectively. A positive correlation was also observed between plant height and heading date ($r = 0.446$). Plant height was found to have a negative significant effect on adult-stage resistance ($r = -0.455$ and -0.387) for both years, implying the effect of plant height on the severity of the disease. Preliminary results suggest that the distribution of resistant accessions differ between their geographical origin. Good levels of highly resistant lines were observed for Tunisia whereas more susceptibility was found among genotypes originating from Italy and Spain. Results from this study will be combined to genotypic data already present for a genome wide association mapping that would reveal novel quantitative trait loci (QTLs) that could be exploited for the improvement of STB resistance in durum wheat.