

PRELIMINARY SCREENING OF DURUM WHEAT BREEDING LINES UNDER ORGANIC CONDITIONS

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Seventy-two durum wheat lines, including breeding lines, ancient and new varieties, have been evaluated under organic and poor soil in order to test their adaptability for organic agriculture, before proceeding with molecular analysis on the selected lines. The accessions, coming from the Italian, Austrian and Hungarian partners of the ECOBREED project, have been evaluated in the three countries in a randomized block design (RBD) with two to three replications for a preliminary screening in order to proceed with deeper analyses and a crossing program in the next seasons. The accessions have been characterized for several important morphological traits such as duration of phenological phases, tillering, plant height, flag leaf traits and area, spike fertility and productivity traits and yield. Moreover, the root system of the same accessions has been evaluated in the greenhouse in Viterbo (Italy), growing single plants in net-pots (15 cm diameter) in a RBD with five replications. The proceeding of primary roots outflow and the root angles at anthesis have been measured.

The analyses allow the ranking of the germplasm for their performance under organic agriculture and the selection of 25 accessions with high potentials to be registered for their utilization under organic agriculture and to be included in future breeding programs.



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