

## CONSTITUTION OF NEW GENETIC VARIABILITY OF WHEAT AND LEGUMES AND SELECTION OF BEST PERFORMING GENOTYPES FOR CONVENTIONAL AGRICULTURE

IDRISSI O.\*, BAIDANI A.\*\*, BASHOUR I.\*\*\*, MAZZUCOTELLI E.\*\*\*\*,  
MACCAFERRI M.\*\*\*\*\*, MARCOTULI I.\*\*\*\*\*, MASTRANGELO A. M.\*\*\*\*\*,  
GADALETA A.\*\*\*\*\*

\*) National Institute for Agricultural Research Morocco, Morocco

\*\*) University Hassan 1st, FST de Settat, Morocco

\*\*\*) Department of Agriculture, Faculty of Agricultural and Food Sciences,  
American University of Beirut, Lebanon

\*\*\*\*) CREA Research Centre for Genomics and Bioinformatics, Italy

\*\*\*\*\*) Department of Agriculture and Food Sciences (DISTAL) Alma Mater  
Studiorum University of Bologna, Italy

\*\*\*\*\*) Department of Agricultural and Environmental Science (DiSAAT),  
University of Bari Aldo Moro, Italy

\*\*\*\*\*) Council for Agricultural Research and Economics, Research Centre  
for Cereal and Industrial Crops, Italy

*wheat, lentil, genetic variability, chickpea, conventional agriculture*

The assessment of the wide and largely underutilized phenotypic diversity present in wheat (mainly landraces and diverse subspecies), lentil and chickpea germplasm allow the identification of genotypes fitting with the modern sustainability/conservative agriculture (CA) principles. Consequently, upon the constitution of the Cerealmes germplasm panels, these genotypes collections have been evaluated in different networks of field trials across a range of Mediterranean environments for evaluation of different set of traits: agronomic traits (plant phenology, early vigor, growth habit, leaf posture habit (erect vs. lax), yield and components), genetic resistance to main diseases, traits related to root architecture, quality traits. Phenotypic and genotypic markers associated to known traits have been used to confirm the selection of the best performing genotypes, which have been used for the generation of new biodiversity at a level of specie through inter-generic and inter-specific crosses. A field trial has

been set up to evaluate the main agronomic traits in a set of 8 durum wheat cultivars grown alone and in intercropping with a genotype of faba bean, and the effect of no-till and conventional systems under different crops (lentils, chickpea and durum wheat) on soil chemical properties was studied.