

ADAPTATION OF MOROCCAIN DURUM WHEAT VARIETIES FROM DIFFERENT ENVIRONMENT OF BREEDING

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Triticum turgidum var. 'durum', environment, GxE interaction, adaptation, AMMI

Considering the continuous technological and environmental changes, it appears necessary to periodically re-evaluate variety adaptation to the different sub environments in Morocco. The objective of this work is to study the geographical adaptation of the main Moroccan durum wheat (*Triticum turgidum* L var. 'durum') varieties, and compare two methods of genotype by environment analyses. Twenty three varieties were planted in randomized complete bloc design trials of three blocks, in six sites and during four seasons 2001/02 to 2004/05. The two methods of analysis are the regression model and the additive main effects and multiplicative interaction model (AMMI).

Primary data analysis showed highly significant effects of the varieties, the experiment sites and the cropping seasons. In trying to further investigate the genotype by site interaction. AMMI analysis showed that the first component of variation explained 60.4 % of error sum of squares due to interaction while the regression model explained only 37.7 %. In addition, the AMMI-1 model is efficient regarding to MS ($2.56 > 1.89$) and variance estimation ($0,033 > 0,022$) than in joint regression. However, the conclusions brought by the two methods are concordant on the classification of the new Hessian fly resistant varieties as adapted to the drylands and the other high-yielding varieties as adapted to the favourable areas.