

ABSTRACT

THE DETERMINATION of DROUGHT RESISTANCE CHARACTERS in AEGEAN REGION's WHEAT CULTIVARS

İlkay YAVAŞ

Ph.D. Thesis, Department of Field Crops

Supervisor: Prof. Dr. Aydın UNAY

2010, 103 pages

The drought which was occurred during especially grain filling in Aegean Region leads to significantly declined yield. For this purpose, bread wheat varieties which were Golia 99, Basribey 95, Cumhuriyet 75, Sagittario, Pamukova 97 and Negev were evaluated for drought tolerance. The study was conducted irrigated and rainfed conditions as field trials, pot trials and germination observations in three phases in 2007-2008 and 2008-2009.

The applications x variety interactions were determined as important for the properties except for the flag leaf area, heading date, grain filling duration and thousand seed weight in the first year of field study and the except for all examined characteristics by plant height and flag leaf area in the second year.

The examined characters were evaluated, in terms of resistance to non-irrigated conditions the plant height, spike number per square meter, the rate of dry leaves and normalized difference vegetation index in field, flag leaf stance, the value of NDVI at tillering and root length at jointing in pots with PEG application, and coleoptile length in germination studies with PEG was concluded to be taken into consideration. When the varieties were compared Cumhuriyet 75, Negev and Sagittario may be more efficient in drought years and these varieties can be said to use successfully the drought resistance breeding studies.

Key words: Wheat, drought, crop physiology, yield, yield components