## **Physiological Responses of Two Wheat Cultivars to Soil Drought** Radoslav R. Chipilski<sup>a,b</sup>, Konstantina V. Kocheva<sup>b,\*</sup>, Veselina R. Nenova<sup>b</sup>, and

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Young plants of the two wheat cultivars Katya and Prelom, differing in their reaction to drought in the field, were grown in soil in pots, and their water status was assessed as well as the intensity of gas exchange, chlorophyll fluorescence, and accumulation of compatible solutes and hydrogen peroxide after 7 days of dehydration. It was established that cv. Katya displayed markedly better tolerance to soil drying in comparison with cv. Prelom. This was partly due to the more effective control of water balance, activity of the photosynthetic apparatus, and metabolic activity of leaves under stress. Consequently, lower amounts of hydrogen peroxide were accumulated and a lower membrane injury index was determined. *Key words:* Chlorophyll Fluorescence, Injury Index, Oxidative Stress