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The Effects of Soil Water Deficits on Biochemical Changes of Some Nectarine Cultivars

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Abstract: In this study some biochemical changes of Independence, Nectared-4 and Necrtared-8 cultivars grafted on Nemaguard rootstock in different watering regimes were investigated. The potted plants in the greenhouse were watered at available water ca-pacity. When the outside temperature was the highest then the watering levels were changed by giving 100 %, 75 %, 50 % and 25 % of available soil water. In all nectarines, leaf chlorophyll-a, chlorophyll-b and total chlorophyll contents decreased with limited water given to the plants. At the end of the drought experiment, the highest decreases in the leaf chlorophyll contents were found in the Nectarine-8 cultivar. In general, when the water was limited leaf total sugar content increased, leaf total starch content decreased. However, these changes were not parallel to the water levels given to the plants. The opposite correlation was obtained between the amount of water given to the plants and leaf abscisic acid (ABA) content. As the amount of water given to the plants decreased, ABA content increased. The highest ABA content was observed when watered at 25 % level.

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