



Effects of partial root drying technique on agricultural and medicinal plants

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ABSTRACT

Water resources are very important to agricultural crop production due to increasing demand for food, feed, and fiber. There is a growing requirement for more use of our natural resources of land, soil, and water. There is ever-increasing pressure on water resources for our extensive use in agricultural production. There needs to be innovative solutions for more efficient irrigation techniques for better development of agricultural irrigation management. This review paper shows the consequences of partial root-zone drying happening on various plant species, its advantages and disadvantages, and also the hormone production under partial root-zone drying. In this technique of irrigation, a wet-dry cycle irrigates the crop, i.e., irrigation is scheduled at a regular interval with half way root drying. This is a water-saving irrigation strategy used in arid and semi-arid environments for increasing irrigation water use efficiency and water productivity as compared to fully irrigated crop plants in area with limited water resources. Scientists have worked a lot with different morphological, physiological, and yield related parameters of horticultural crops with partial root-zone drying but little work with agronomic crops.

Keywords: Deficit irrigation (DI), Partial root drying technique (PRD), Water productivity (WP), Water use efficiency (WUE).
