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**Untersuchungen zur Bodenfeuchtedynamik und zum Pflanzenwasserhaushalt bei verschiedenen Bodenmanagement- und Laubwandsystemen von *Vitis vinifera* L. (cv. Riesling) im Steilhang - ein Ansatz zur bedarfsgerechten Steuerung von Töpfchenbewässerungsanlagen**

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## DISSERTATION

**Untersuchungen zur Bodenfeuchtedynamik und zum Pflanzenwasserhaushalt bei verschiedenen Bodenmanagement- und Laubwandsystemen von *Vitis vinifera* L. (cv. Riesling) im Steilhang - ein Ansatz zur bedarfsgerechten Steuerung von Töpfchenbewässerungsanlagen**

In each of the years 2007 to 2009 grapes of *Vitis vinifera* cv. Riesling were harvested at three different dates in a single vineyard in Geisenheim, Germany. The early harvest took place at the end of September in each year, the middle vintage at the beginning of October and the late harvest at the end of October. All grapes were processed applying good-practice standards and using standardized methods in each year. Vinification was carried out in six different variations in each of the three years: a control treatment, a vinification "sur lies", and the addition of ascorbic acid (150 mg L<sup>-1</sup>), iron (5 mg L<sup>-1</sup>), copper (5 mg L<sup>-1</sup>) or tannins (60mg L<sup>-1</sup>). These treatments were applied to analyze the influence of these substances and of the vinification methods on the Riesling wine at different stages of grape maturity and wine ageing.

