

Wine grape quality – proteomics approach

Wine production has a long tradition in Portugal and the wine industry has a high turnover and added value. The growth and ripening of grapes (*Vitis vinifera*) are complex developmental processes that involve multiple metabolic changes. The berry skin metabolism strongly influences the berry quality characteristics. Nonetheless, the role and significance of the skin (cuticle and exocarp) appear to have been neglected in grape berry research. Mostly relevant to wine industry, grape berry cuticular wax composition is determinant in the alcoholic fermentative process during wine making.

Despite fruit cuticle importance, relatively little is known about its synthesis, assembly and metabolism. Taking advantage of the genetic resources already available (e.g. *Vitis* genome) grape berries can be considered as a potential suitable model for non-climacteric fruits and woody species to study cuticle. In order to identify biological players involved in the transport and deposition of the cuticle, the present master thesis proposal aims at identifying and characterization of cuticular proteome during berry ripening in Aragonez cultivar subjected to two different irrigation regimes. Gel-based proteomics and mass spectrometry are two of the methodologies to be applied.

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