

REGULATION OF ANTHOCYAN SYNTHESIS AND VACUOLAR pH IN DEVELOPING GRAPEVINE BERRY

BRUSCHETTA M., UGOLINI S., ZAMBONI A., PEZZOTTI M.

Department of Science, Technologies and Markets of Grapevine and Wine, Via Della Pieve 70, S. Floriano (VR) (Italy)

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The grapevine berry has the ability to synthesize many secondary metabolites, some of which are important components towards colour and flavour that define a particular wine.

Phenolics, a class of secondary metabolites, take part in defining colour and some flavour aspects of the berry.

In grapevine berry colour is obtained by anthocyanin synthesis, and colour intensity is controlled by the acidification of the cellular vacuole. In fact the absorption spectrum of anthocyanins depends on pH and therefore skin colour should be influenced by vacuolar pH.

The genetic of flower colour has been characterized in the *Petunia hybrida*. Genetic evidences demonstrated that in *Petunia hybrida* flower colour is regulated by the expression of genes involved in anthocyanin biosynthesis and in regulation of vacuolar acidification. A model of flower colour has been experimentally developed that consists of AN1 (bHLH protein) which regulates both anthocyanin biosynthesis by interaction with AN2 (Myb protein), and vacuolar acidification pathway by interaction with PH4 (Myb protein)^{1,2}.

The aim of this work is to answer whether the *Petunia hybrida* flower colour genetic model could be extended to berry colour in *Vitis vinifera* cv. Corvina (clone 48) by the characterization of homologous putative transcription factors identified in the grapevine genome³.

References:

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