

## **Anthocyanin composition of young red wine cv. Ruby Cabernet and Syrah: effect of time and storage conditions**

Padilha, C.V. S.<sup>1</sup>, Biasoto, A.C.T.<sup>2</sup>, Corrêa, L.C.<sup>2</sup>, Lima, M.S.<sup>3</sup>, Bordignon-Luiz, M.T.<sup>1</sup> e Pereira, G.E.<sup>4</sup>

<sup>1</sup>Laboratory of Food Biochemistry, Federal University of Santa Catarina. Zipcode 88034-001, Florianópolis, Brazil; <sup>2</sup> Laboratory of Enology, *Embrapa Tropical Semiarid*, Zipcode 56302-970, Petrolina, PE, Brazil; <sup>3</sup>Drinks and Waters Laboratory, Federal Institute of Sertão Pernambucano, Zipcode 56314-520, Petrolina, PE, Brazil; <sup>4</sup>Laboratory of Enology, *Embrapa Grape & Wine/Tropical Semiarid*, Zipcode 56302-970, Petrolina, PE, Brazil. E-mail: carla.padilha@posgrad.ufsc.br and giuliano.pereira@embrapa.br

The storage conditions due to various chemical reactions can influence the composition of wine anthocyanins. The aim of this study was to evaluate the evolution of anthocyanins in red wines for 12 months of storage in bottles in two different conditions. The wine samples cv. Ruby Cabernet and cv. Syrah (*Vitis vinifera* L.) used for this study were produced in the Sub-middle São Francisco Valley, in the Northeast Region of Brazil, during the 2013 harvest. After bottled, wines were stored under two different conditions: cellar (horizontal position, temperature of  $16 \pm 1^\circ$  C and no light) and supermarket shelf, simulating conditions (vertical position, temperature  $26 \pm 1^\circ$  C under fluorescent light (2500 lumens) for eight hours a day. All samples were evaluated immediately after bottling and at 6 and 12 months of storage. The monomeric anthocyanins (malvidin 3- glucoside, peonidin 3-glucoside, delphinidin 3-glucoside and perlagonidina 3-glucoside) were determined by high-performance liquid chromatography (HPLC). The results showed that the total anthocyanins quantified decreased with time. This decrease was even greater in the sample analyzed 12 months of storage. The storage form had significant influence ( $p < 0.05$ ) in anthocyanins quantified in wines. The samples stored at the cellar had higher total content of anthocyanins (Ruby Cabernet: 41.6 mg L<sup>-1</sup> and Syrah: 11,1mg L<sup>-1</sup>) compared to those stored in shelf (Ruby Cabernet: 11.50 mg L<sup>-1</sup> and Syrah: 3.7 mg L<sup>-1</sup>). The malvidin 3-glucoside was the major anthocyanin present in wine analyzed, showing the largest decrease in Syrah wines stored on the shelf for twelve months. The results can be explained by condensation reactions, self-association and copigmentation of anthocyanins, being significantly higher in wine cv. Syrah stored on the shelf.

Tema: Química enológica

Área: Enologia

Apoio: FACEPE, CAPES e vinícolas Bianchetti, Botticelli, Ducos, Miolo e Santa Maria.