Antioxidants in Sicilian wines: analytic and compositive aspects

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Abstract: The beneficial effects of wine are associated with the physiological protection conferred by phenolic compounds such as anthocyanins and resveratrol. Levels of these phenolic compounds were quantified in 19 monovarietal wines produced in Sicily. Resveratrol and resveratrol-glucosides were detected by high-performance liquid chromatography (HPLC) with an ultraviolet detector, while anthocyanins were determined by micro-HPLC-Electron Spray Ionization-Mass Spectroscopy (ESI-MS) analysis. The amount of cis- and trans-resveratrol and of cis- and trans-piceid varied in the different types of wine, depending on the grape variety. Red wines presented higher contents of resveratrol and resveratrol-glucosides, whereas lower concentrations were present in white wines. In Merlot wine, the concentration of trans-piceid (5.04 mg/l) was significantly greater than in the other wines and represented the highest concentration among all the resveratrol isomers. Fourteen components were identified and dosed in the anthocyanin fraction. The highest concentration of total anthocyanins (417 mg/l) was found in the Cabernet Sauvignon wine, while the highest value among the wines made from the autochthonous grapes was found in Nero d'Avola. Antioxidant capacity was also studied. The results show that the antioxidant capacity of wines is strictly related to the amount of phenolic compounds.

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