Primary and secondary metabolites screening in fig (*Ficus carica* L.) collection

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Fig is a major natural source of bioactive compounds in the health-promoting Moroccan diet for millennia. However, there is no established studies investigating biochemical compounds and their variability in figs growing in Moroccan orchards. In this study 135 of local fig clones and introduced varieties were screened for their total phenolics, flavonoids, anthocyanins, proanthocyanidins, soluble sugars, titrable acidity, total soluble solids, and chromatic coordinates (L*, c*, and hue∘). Radical scavenging activity was determined using DPPH, ABTS, FRAP and β-carotene blanching essays. Cluster analysis was carried out in order to select from each contrasted subsets the most promising genotypes with typical profiles in order to perform more in-depth analysis. Indeed, Eleven cultivars were selected and analyzed by HPLC for their sugars, organic acids, antioxidant activity, phenolic acids and anthocyanins pigments. Preliminary results showed that glucose (5.55 ±0.3-29.94 ±0.8 g.kg-1 dw) and fructose (6.23 ±0.3-28.15 ±0.8 g.kg-1 dw) were the predominant sugars in figs, while Malic acid (0.51 ±0.6-4.99 ±0.2 g.kg-1) was higher in all cultivars. However only minor amounts of sucrose were measured. Free radical scavenging activity was significantly important in dark colored figs. The results showed that acid malic and reducing sugars was positively correlated to the lightness and Chroma coordinates, whereas total phenols were significantly higher in dark colored figs. Principal component analysis showed that organic acids, sugars and chromatic coordinates were the most discriminant variables that clustered the genotypes into four main subgroups.

Keyword : *Ficus carica* L. ; sugars ; organic acids ; phenols ; anthocyanins; antioxidant activity ; chromatic coordinates