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ORIGINAL ARTICLE

Antioxidant activity, phytochemical screening, and total phenolic content of extracts from three genders of carob tree barks growing in Morocco

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Spontaneous male

Abstract We evaluated the *in vitro* antioxidant property and phytochemical constituents of the crude ethyl acetate and methanol extract of the three genders of carob tree barks (spontaneous male, spontaneous female, and grafted female). The scavenging activity on DPPH (1,1-diphenyl-2-picrylhydrazyl) was determined, as well as the phenolic contents (Folin–Ciocalteu method) of both the extracts. The highest antioxidant activity and the higher amounts of total phenols were shown in methanol crude bark extract for the three genders. Variety significantly affected the phenol content and the antioxidant activity, with the spontaneous male variety globally showed a higher polyphenol concentration and antioxidant activity than the grafted female and spontaneous female.

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1. Introduction

Epidemiological and experimental studies reveal a negative correlation between the consumption of diets rich in fruits and vegetables and the risks for chronic angiogenic diseases, such as cardiovascular diseases, arthritis, chronic inflammation, and cancers (Chen et al., 2005; Middleton et al., 2000; Prior, 2003; Saleem et al., 2002; Zhang et al., 2005). These physiological functions of fruits and vegetables may be partly attributed to their abundance of phenolics. Phenolic