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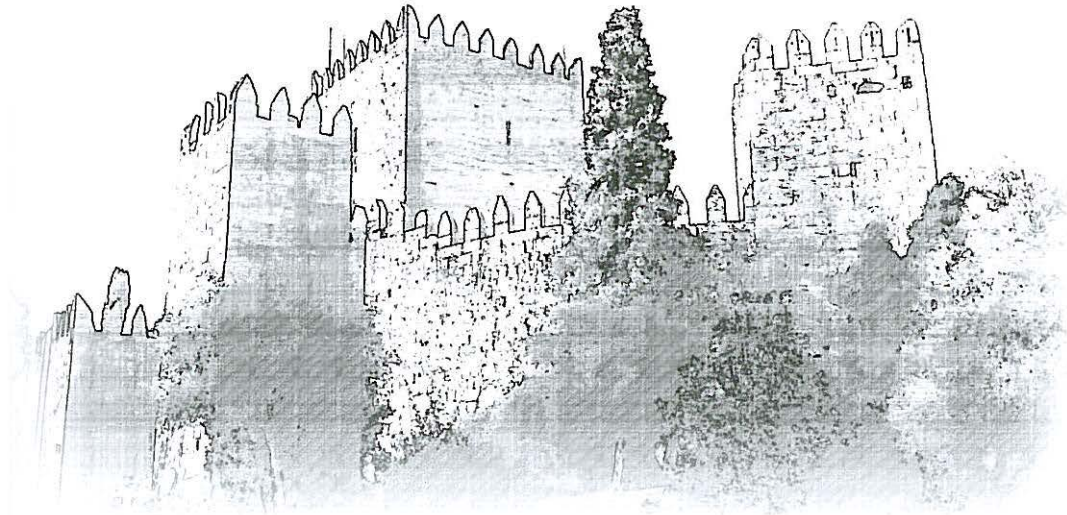
Book of Abstracts



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University of Minho, Campus of Azurém
Guimarães, Portugal

Figure 1: Workshops Fitocerrado Network, preparation of wafer jatoba, liquid soap, and practical classes with undergraduates and students of elementary education.

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Keywords: *Rede FitoCerrado, herbal medicine, basic health care*

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MINISTÉRIO DA SAÚDE. Politica Nacional de Plantas Medicinais e Fitoterápicos. Brasilia, DF: 2006. 60 p.

P2B8 **Antioxidant activity and phenolic profile of commercial and wild roots of *Fragaria vesca***

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Fragaria vesca L. (Rosaceae), wild strawberry, is commonly found in forests, slopes and roadsides. Widely spread across Europe, it can be also found in Korea, Japan, North America and Canada [1]. The roots are traditionally used as decoction and infusion to treat cough symptoms, urinary tract infections, haemorrhoids, diarrhoea, and gout, but also for their tonic, stimulant and diuretic properties. Those bioactive properties have been mainly related with the composition in various phenolic compounds such as anthocyanins, proanthocyanidins, flavonols, and derivatives of hydroxycinnamic and ellagic acids [2, 3]. As far as we know, there are no reports on the phenolic profile and antioxidant activity of *F. vesca* roots. In the present study, commercial and wild roots of this species were submitted to different extraction procedures, aqueous (by infusion or decoction) and hydromethanolic, in order to compare their antioxidant potential and to establish the individual phenolic profile of each one. Commercial and wild samples showed similarities in terms of flavan 3-ols (TF3O), with catechin derivatives, mainly procyanidins, as major compounds in both samples. The commercial sample presented ellagic acid glycosides, whereas the wild sample presented flavonols (TF) and dihydro-

flavonols (taxifolin derivatives). The infusion of wild sample gave the highest content of total phenolic compounds (TPC, 253.42 mg/g, dw) and the highest DPPH scavenging activity, reducing power and lipid peroxidation inhibition (TBARS assay) (EC_{50} = 50.56, 44.78 and 4.76 µg/mL, respectively). The antioxidant capacity (mainly β-carotene bleaching and TBARS assays) observed for the wild sample is correlated with TF3O, TF and TPC. Overall, the antioxidant activity of *F. vesca* roots could be directly obtained by consumption of infusions/decoctions or by incorporating hydromethanolic extracts in antioxidant formulations for cosmetic, pharmaceutical or food industries.

References:
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P2B9 Effects of the Korean Red Ginseng preparation on matrix metalloproteinase-13 expression in human chondrosarcoma cells

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The present study is designed to prepare and find the optimum active preparation or fraction from Korean Red Ginseng inhibiting matrix metalloproteinase-13 (MMP-13) expression [1,2], since MMP-13 is a pivotal enzyme to degrade the collagen matrix of the joint cartilage [3,4]. From total red ginseng ethanol extract, *n*-BuOH fraction (total ginsenoside-enriched fraction), ginsenoside diol-type-enriched fraction (GDF) and ginsenoside triol-type-enriched fraction (GTF) were prepared, and ginsenoside diol type-/F4-enriched fraction (GDF/F4) was obtained from *Panax ginseng* leave extract. When their effects on MMP-13 expression were compared, the *n*-BuOH fraction, GDF, and GDF/F4 clearly inhibited MMP-13 expression against IL-1β-treated SW1353 cells (human chondrosarcoma), whereas the total extract and GTF did not. In particular, GDF/F4, the most prominent inhibitor, blocked the activation of p38 mitogen-activated protein kinase (p38 MAPK), c-Jun-activated protein kinase (JNK), and signal transducer and activator of transcription-1/2 (STAT-1/2) among the signal transcription pathways involved. Further, GDF/F4 also inhibited the glycosaminoglycan release from IL-1α-treated rabbit cartilage culture (30.6% inhibition at 30 µg/ml). Therefore, it is suggested that some preparation from Korean Red Ginseng and ginseng leaves, particularly GDF/F4, may possess the protective activity against cartilage degradation in joint disorders, and may have potential as a new therapeutic agent.