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LE RESEAU DES PHYTOCHIMISTES DE LA REGION GRAND-EST ELARGI

Université Libre de Bruxelles
Campus de la Plaine - Faculté de Pharmacie

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CO-5 : Valorisation of cocoa by-products as food ingredients and additives

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Cocoa bean shell (CBS) is a main by-product of cocoa industry, representing approximately 12% of the total bean¹. CBS discard could be expensive and produce environmental problems. Besides, CBS represents a source of polyphenols and dietary fiber that could make it useful as food ingredient or additive. The high polyphenol content of CBS could also give it antidiabetic properties, which is of big interest considering that the WHO estimates that 422 million people worldwide were living with diabetes in 2014, and this number will double by 2030².

During the first stage of this work, the volatile and polyphenolic profile of more than seventy CBS samples of diverse cultivars and collected in different geographical origins were studied in order to characterize and classify them. Volatile fingerprint was studied by means of GC/MS and electronic nose analyses while the polyphenolic profile was determined through HPLC and screening spectrophotometric assays.

In order to find a practical application on the food industry, CBS was employed to develop a new functional beverage. To do so, six different types of home-made beverage production techniques and different degrees of CBS grinding were used. The influence of these factors on the phenolic content, antioxidant capacity and antidiabetic capacity of the new beverage was studied in order to find the optimum CBS grinding for each production technique.

The CBS could therefore represent an optimal cocoa-similar ingredient for the production of functional foods with potential health benefits for the consumers, reducing the environmental and economic impact of the by-product disposal.

¹EFSA (2008) 725, 1-66

²World Health Organization – Global Report on Diabetes 2016



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et organisatrice du Phytoday, certifie que

Olga ROJO POVEDA

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Prof. C. Stévigny

