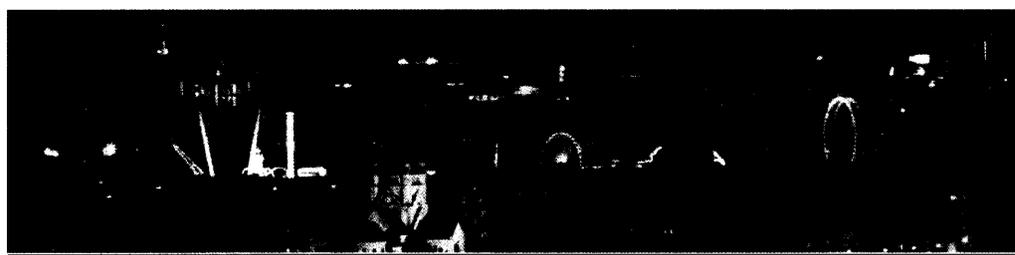


VIENNA POLYPHENOLS 2017

**International Society of Antioxidants
in Nutrition and Health**

**11th World Congress on
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ABSTRACTS BOOK



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DISCRIMINATION OF COCOA BEAN SHELL FROM DIFFERENT REGIONS OF VENEZUELA BASED ON POLYPHENOLS PROFILE

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Introduction: The traceability and origin authentication of food products is of great interest for consumers and industries and it is well known that the chemical composition of an agro-food product is related to its geographical and varietal origin. Cocoa bean shell (CBS) is a main cocoa by-product and an interesting source of dietary fibre and polyphenols with great potential as food additives/ingredients. Then, the aim of this study was to discriminate samples of CBS obtained from cocoa beans of diverse varieties collected in six different regions of Venezuela using their polyphenolic profiles.

Material & Methods: The analysis of CBS polyphenols was performed by high-performance liquid chromatography–diode array detector–mass spectrometry.

Results: More than 40 compounds (phenolic acids, flavanols, quercetin-glycosides, catechin-glycosides and procyanidins) were identified and quantified. Adonis and Anosim statistical tests showed significant differences among regions and varieties of cocoa beans ($P < 0.001$). Differences between the groups were further demonstrated by principal component analysis and sample clustering was performed according to regions and varieties.

Conclusion: The results highlight that variety and geographical area affect the polyphenols content and profile of CBS and therefore phenolic compounds can be used as chemical markers.

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