



CONFERENCE ABSTRACT BOOK

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Canada and the Changing Global NHP Landscape: The 17th Annual Conference of the Natural Health Products Research Society of Canada

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ABSTRACT

The 17th Annual Natural Health Products Research Conference hosted by the NHP Research Society of Canada (NHPRS) will be held from June 7–9 & 14–16, 2021, virtually hosted by the University of Ottawa, in Ottawa, Ontario. Founded in 2003 by a collaboration of academic, industry, and government researchers from across Canada, the NHPRS is a Canadian federally incorporated non-profit organization. The goals of the NHPRS are; (a) to promote scientifically rigorous research and education on natural health products (NHPs), (b) to develop a national research community that encompasses academic, health professional, government and a broad-base of industry stakeholders, (c) to support national research priorities that best enable the informed and appropriate use of NHPs that are safe and efficacious, (d) to increase the capacity for NHP research and education, (e) to facilitate effective NHP knowledge transfer and translation, (f) to support the use of science-based product quality standards and the use of well-characterized materials and protocols in research and (g) to foster value-chain development through interdisciplinary NHP research collaborations and networking. To forward these objectives, the NHPRS has held annual research conferences since inception with themes that highlight the important trends in the ever growing and changing field of NHP Research. The theme of the 17th Annual Conference is “Canada and the Changing Global NHP Landscape”, featuring six “live” sessions (*Global Stewardship and Sustainability, NHPs in the Time of the Pandemic, Indigenous Traditional Medicine, Global Advances in NHP Research, NHPs in Clinical Practice and Research, and Regulation, Policy, Commerce*) and contributed sessions on topics such as cancer, cannabis, functional foods, natural product chemistry, and more. The abstracts are ordered alphabetically by presenting author last name, divided by topic sessions. For more information, please visit: <http://www.nhprs.ca/>.

KEYWORDS: NHP Research Society of Canada, NHPRS, natural health products, research

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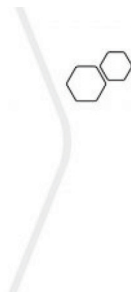
Note: Corrections to a few abstract author names were made after the original version was published on June 06, 2021, however, all content remains unchanged. We regret any inconvenience caused.

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field-specific journal is described. An NHP researcher database was created including the regions of Canada, United States, West Europe and Australia, to reflect the major English-speaking regions of the world. Keyword searches of publically available data online, including faculty webpages and publications, populated the database. Duplicates were removed and saturation was reached. Researcher name, affiliation, academic rank, research interest, region and faculty webpage URL were collected. All database information was verified or corrected by independent review. Searches yielded 1894 NHP researchers: USA (n = 981, 51.8%), West Europe (n = 337, 17.8%), Australia (n = 336, 17.7%), and Canada (n = 240, 12.6%). The large majority of researchers either had a research interest or published research relating to the traditional use, phytochemical composition, and therapeutic properties of NHPs (n = 1238, 65.4%), followed by NHPs in clinical settings and healthcare education (n = 519, 27.4%). Other research interests also included, but were not limited to, NHP cultivation/harvest, industrial innovations, manufacturing, and regulatory affairs. Completion of the database has created a structured participant pool for the forthcoming survey. Recruitment of additional participants is planned via snowball sampling by inviting all researchers in the database to recommend colleagues from any region of the world. It is hoped that the findings will help contributors discern the legitimacy of the journal, and that this process of stakeholder identification and engagement will benefit other academics interested in publishing or journal creation.

Bio-Residues of *Ilex Paraguariensis* A. St. Hil. as a Source of Phenolic Compounds with Preservative Potential

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The use of Agro-industrial wastes translates into an advantageous opportunity for the development of by-products [1]. *Ilex paraguariensis* A. ST. HIL. (yerba mate) is a tree widely cultivated and appreciated with a chemical composition that identifies several beneficial properties to the human body [2]. In this work, a comparison between the extracts of dehydrated yerba mate (EMNP) and bio-waste (EMP) leaves from the yerba mate industry in Brazil was made, as well as the incorporation of the EMP extract in a traditional food product, to evaluate its preservative potential. The individual profile of phenolic compounds was determined by HPLC-DAD-ESI/MS and the bioactive potential was assessed through *in vitro* tests for antioxidant, anti-inflammatory and antimicrobial activity, as well as cytotoxicity tests, in human tumor cell lines and in a non-tumor cell line. Among the seven phenolic compounds identified, four were found in greater quantity in the extracts of bio-residues of yerba mate (EMP). Regarding the functional properties, the extracts obtained revealed a high antimicrobial potential against the tested strains, as well as a very promising antioxidant and anti-inflammatory activities, without toxicity. After incorporating the most promising extract, EMP, in pancakes, the centesimal evaluation and the chemical composition (individual profile of sugars and fatty acids) revealed that after storage for 3 days the natural ingredient proved to show preservative efficiency.

This study intended to develop new solutions that allow reduced application of artificial additives in food products.

[1] Toop, T.A., Ward S., et al. (2017). Energy Procedia, 123, 76–80.

[2] Vieira, M.A., Rovaris, A.A., et al. (2008). Journal of agricultural and food chemistry, 56, 4637–4642.

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Narrow Sense Heritability of Secondary Metabolites in *Echinacea Angustifolia*

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Echinacea has long been used for many medicinal properties such as anti-inflammatory and anti-microbial effects. Some of the most prominent secondary metabolites in *echinacea* are caffeic acid derivatives (CADs) including caftaric acid, chlorogenic acid, cichoric acid, and echinacoside and numerous alkylamides, which have a similar structure containing a polyunsaturated aliphatic fatty acid chain and a shorter substituent at the amine. Both AKAs and CADs are