Jim Simon, PhD
Rutgers University

Jim Simon serves as the Director of the Center for Agricultural Food EcoSystems (RUCAFE), whose mission is to bring a uniquely diverse and holistic approach to researching food systems and designing innovative and culturally appropriate methods to sustainably nourish our growing human population in balance within our global ecosystems. The RUCAFE mission is to increase access, affordability, availability, and adoption of healthy, environmental, economic, and culturally appropriate and sustainable food. Simon, a Distinguished Professor of Plant Biology, also serves as Director of the New Use Agriculture and Natural Plant Products Program (NUANPP), in the Department of Plant Biology, which seeks to identify rare or under recognized new flavors, aromas from around the world and new applications of bioactive and nutritious plant compounds some of which may have application in cosmetics and toiletries. As a plant biologist, Simon's expertise is in plant genetics and natural plant products. He has earned many national and international awards including The Chancellor's Award for International Impact, Distinguished Service to Agriculture Award, Special Service Award, Association for International Agriculture & Rural Development, Recipient of the International Excellence Award for Scientific Excellence by a researcher in a USAID Collaborative Support Research Program. Board for International Food Agricultural Development (BIFAD), USAID, and many industry and academic awards for research excellence and impact. Simon and his team are researching the applications of new natural products as safe and effective ingredients in cosmetics, some of which are the focus of his presentation. Simon's research programs are funded by the NIH, USDA, USAID, and State Department.

Abstract

"Potential uses of botanicals in personal care products: challenges and opportunities"

Plants have been used for centuries for health and healing due to their bioactive molecules. However, only relatively recently modern tools were developed to assist in the isolation and identification of those active principles from botanical sources. The development of advanced scientific equipment and techniques allowed for the validation of traditional uses of natural products as well as the discovery and development of potentially new plant-based products. One example of innovation derived from the combination of modern analytical tools and traditional knowledge is a novel method to extract flavan-alkaloids from the leaves of Kinkéliba (Combretum micranthum), was patented by scientists from Rutgers University. Extracts from the same plant have been used by Acaderma to develop Seh-Haw EX™ an anti-inflammatory active that helps reduce redness and repair the skin barrier. Another African medicinal

plant that can be used for protecting and improving human skin health is Kombo (Pycnanthus angolensis) which contains tocotrienol derivatives that are currently being investigated for their potential use in personal care products. In addition, products from two well known plants of the Lamiaceae family, basil and catnip, have also shown interesting potential as permeation enhancers for transdermal drug delivery. Rutgers has an extensive germplasm of genetically improved materials of these species, which may show different activities than those previously reported in the literature. This presentation will address the discovery and development of potential natural products that can be used to improve skin health as well as highlight the main challenges in meeting industry demands for standardized raw materials.

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