Medicinal Plants: Unlocking their full potential

Left  Mature inflorescence of female cannabis plant (courtesy of R. Jost, Australian Research Council’s Industrial Transformation Hub for Medicinal Agriculture, La Trobe University).

Special Issue
Edited by Ricarda Jost, Susanne Schilling, and Rainer Melzer

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Following global trends to legalize medicinal cannabis and some of its uses, there has been a renewed interest in traditional herbal medicines and the secondary compounds responsible for their efficacy in human health. Many medicinal plant species can be regarded as orphan crops as they are either collected from the wild, multiplied by clonal propagation of high-performing varieties, or grown in small acreage settings without structured breeding programs guiding plant selection and variety improvement. The strong impact the environment has on target product quality and quantity poses additional challenges to develop these compounds into pharmaceutical products. This special issue will highlight current research programs that aim to improve product quality by providing in-depth knowledge on metabolic pathways, development and organization of specialized cells, tissues and plant organs that produce the target compounds, nutrient acquisition, cultivation techniques, as well as genomic and phylogenetic studies informing germplasm selection.

Invited reviews

Liyanage NS, Awwad F, Mérindol N, Jayawardena, TU, Desgagné-Penix I. Gaps of knowledge in Amaryllidaceae alkaloid (AA) biosynthesis and production: Things we don't know and why?


Research articles


We welcome contributions to this special issue. If you would like to submit a paper, either research or review, please email a title and brief outline for the consideration of the guest editors. All papers are subject to the usual standards of peer review and must fit the scope of the journal. The deadline for submissions is 30 November, 2023. The deadline for submissions is 31 January, 2024.