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“Competing pathways for equitable food systems transformation:
Trade-offs and synergies”

Does agroforestry affect human health and nutrition?

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Abstract

Agroforestry - the integration of woody plants into crop or livestock management - is regarded as a sustainable agroecological production method that contributes to numerous aspects of planetary health, including environmental health and human well-being. While considerable literature is available on the benefits of agroforestry on soil fertility, climate change mitigation and the economy of local communities, the impact of agroforestry on human nutrition and health is less often researched or included as an explicit objective in agroforestry programs. Closing this potential knowledge gap on the direct impacts of woody plants in agroforestry systems on human health and nutrition could help to create awareness among stakeholders involved in agroforestry programmes and lead to increased integration of nutrition and health aspects into future agroforestry programs. To assess the extent of the postulated knowledge gap, the present study is reviewing the existing evidence of the links between woody plants in agroforestry systems to human health and nutrition.

In this systematic review, scientific literature is examined in terms of content, whether direct impacts of woody plants in agroforestry systems on human health and nutrition are assessed by qualitative or quantitative methods. Included direct impact categories are human nutrition, medicine from woody plants, infectious diseases, mental health, microclimate and air quality. We searched four bibliographic databases, namely PubMed, AGRIS, Web of Science and Scopus, including all languages and study designs, covering all time periods until January 2023. Experts from different organisations and disciplines will also be interviewed to include information from grey literature such as project reports.

Our search returned 7460 citations of which we included 335 articles after screening titles and abstracts. Most of the included studies refer to the impact categories nutrition and medicine, whereas mental health and air quality are least represented. However, the direct links to human health and dietary intake might be missing in some of these publications. The next steps are full-text review and final selection of papers for data synthesis. This study is still on-going and final results will be presented at the conference.

Keywords: Medicine from woody plants, mental health, microclimate, nutritional security, woody plants