



Contribution ID : 94

Type : **Oral**

Antinutritives in Duckweeds

venerdì 2 ottobre 2026 08:30 (30)

Duckweeds (Water lentils) are progressing towards their incorporation into the Planetary Health Diet. Several studies have focused on analyzing the quality and quantity of the wide spectrum of nutritional components in these tiny flowering plants. Based on these investigations, duckweeds exhibit excellent nutritional profile suitable for human nutrition. However, the bioavailability of these nutrients is dependent on several factors, one of them being the content of antinutritive compounds like Phytate and Oxalate. Phytate, inositol hexakisphosphate, is the main storage form of Phosphorus in plants. When consumed by humans, they can lower the absorption of some of the minerals like Zinc, Magnesium, Calcium and so on, because of their strong affinity towards these mineral ions. Oxalates play diverse roles in plants, such as in calcium homeostasis, detoxification of heavy metals, pH regulation and so on. They can be found in plants as soluble or insoluble salts. When consumed by humans through plant-rich diet, they can interfere with the bioavailability of minerals and may also show potential nephrotoxicity. Although consumed in sufficient amounts, the extent of bioavailability of the minerals is key to assessing mineral malnutrition. Here, the role of antinutritive compounds can be crucial. Our current understanding and the quantities of oxalate, phytate and the minerals in different duckweed species will be discussed.

Acknowledgements: KSS acknowledges the Anusandhan National Research Foundation (ANRF), India, for the SERB POWER grant (grant no. SPG/2022/002036; 31 October 2023) and Banaras Hindu University, India for the IoE-SEED Grant (grant no. R/Dev/D/IoE/SEED GRANT (Phase-VI)/2024-25/83259; 21 January 2025).

Corresponding author email

kssree9@bhu.ac.in

Scientific Session

Keywords

Phytate; antinutritives; Oxalate

References

Primary author(s) : Prof. KANDREGULA, Sowjanya Sree (School of Biotechnology, Banaras Hindu University)

Presenter(s) : Prof. KANDREGULA, Sowjanya Sree (School of Biotechnology, Banaras Hindu University)

Session Classification : Application III - Invited Talk