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Microgreens as a new source of food raw materials

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About 4% of the body weight of a healthy adult is made up of minerals, most of these are found in the bones. They also play an important role in metabolic processes. Several studies have shown that microgreens contain higher amounts of bioactive compounds than their full-grown counterparts. In our research, we evaluated species belonging to different plant families, such as Brassicaceae (mustard, radish), Chenopodiaceae (beet, chard) and Lamiaceae (basil). Regarding production, microgreens were in reduced light condition until 90% germination at a controlled temperature (24-25 °C) and humidity (65-70%). Additionally, organic quality, pesticide-free seeds were used in the cultivation. At harvest time, yield and mineral content (Cu, Mn, Zn, Fe, K, Ca, Mg, Na, P, S) were measured for every species. We have found that the mineral content of some species, with a daily consumption of 100 g, can cover 5-35% of the recommended daily intake, as known recommended dietary allowance (RDA). An exception is the sodium content, it is recommended to consume a smaller amount of this mineral (low-sodium lifestyle), which is favorable for microgreens. Since they contain about 0.3% (radish, mustard, basil) and 2% (chard, beetroot) of the recommended RDA (~ 2000mg / day). In several cases, one of the highest Ca- ($1452.70 \pm 37.63 \text{ mg kg}^{-1}$), Mg- ($624.63 \pm 19.39 \text{ mg kg}^{-1}$), Cu- ($2.11 \pm 0.05 \text{ mg kg}^{-1}$), Mn ($11.55 \pm 0.32 \text{ mg kg}^{-1}$) and K content ($3901.83 \pm 32.38 \text{ mg kg}^{-1}$) were measured by beetroot. Furthermore, one of the highest P and Zn contents was found for mustard ($1292.23 \pm 94.23 \text{ mg kg}^{-1}$; $17.30 \pm 1.32 \text{ mg kg}^{-1}$). Favorable yield were measured by Brassicaceae family (~2000 g/m²), while the values for the other species were almost the same (~500 g/m²). Overall, the consumption of microgreens has a positive effect on the recommended daily intake reference value for a healthy lifestyle. Thus, we can recommend the consumption of microgreens, which are marketed in Plastic Clam Shell Packaging.