

## Research Article

# A Data Mining Approach to Improve Inorganic Characterization of *Amanita ponderosa* Mushrooms

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*Amanita ponderosa* are wild edible mushrooms that grow in some microclimates of Iberian Peninsula. Gastronomically this species is very relevant, due to not only the traditional consumption by the rural populations but also its commercial value in gourmet markets. Mineral characterisation of edible mushrooms is extremely important for certification and commercialization processes. In this study, we evaluate the inorganic composition of *Amanita ponderosa* fruiting bodies (Ca, K, Mg, Na, P, Ag, Al, Ba, Cd, Cr, Cu, Fe, Mn, Pb, and Zn) and their respective soil substrates from 24 different sampling sites of the southwest Iberian Peninsula (e.g., Alentejo, Andalusia, and Extremadura). Mineral composition revealed high content in macroelements, namely, potassium, phosphorus, and magnesium. Mushrooms showed presence of important trace elements and low contents of heavy metals within the limits of RDI. Bioconcentration was observed for some macro- and microelements, such as K, Cu, Zn, Mg, P, Ag, and Cd. *A. ponderosa* fruiting bodies showed different inorganic profiles according to their location and results pointed out that it is possible to generate an explanatory model of segmentation, performed with data based on the inorganic composition of mushrooms and soil mineral content, showing the possibility of relating these two types of data.