



Comparative evaluation of the mineral profile of wild blueberries (*Vaccinium myrtillus*) from mountain areas in Caraş-Severin County. Source of bioactive compounds

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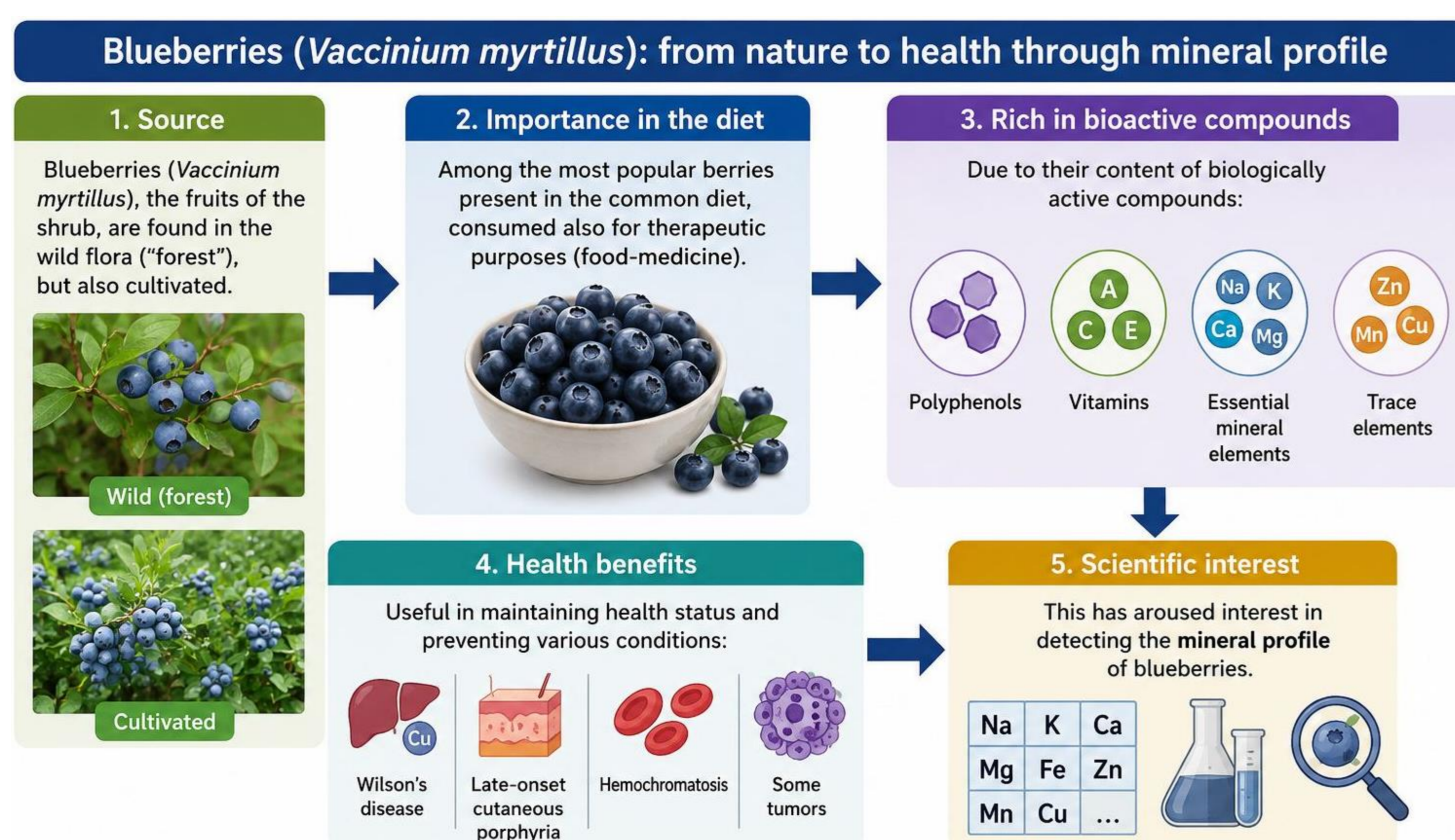
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Abstract: Blueberries, the fruits of the shrub *Vaccinium myrtillus*, found in the wild flora („forest”), but also cultivated, are among the most popular berries present in the common diet, consumed also for therapeutic purposes (food-medicine), due to their content of biologically active compounds (polyphenols, vitamins, essential mineral elements, and trace elements), useful in maintaining health status and preventing various conditions (e.g., Wilson's disease, late-onset cutaneous porphyria, hemochromatosis, some tumors) (Fig.1). This has aroused interest in detecting the mineral profile, comparatively, of wild blueberries from a mountainous area, defined [Muntele Mic (1), Poiana Mărului (2), Pecinişca (3)], in Caraş-Severin County (Romania). It should be noted that in blueberries, heavy metals (Pb, Cd, As, Hg, etc.) can be identified (accidentally or not), which, even at low concentrations, are toxic to the human body. This statement confirms the evaluation of the mineral profile of „wild” blueberries. The specialized literature reports that the evolution of mineral elements is variable, constrained by variety, pedoclimatic conditions, and the degree of pollution. The study proposes the determination of concentrations (mg/kg product) (average values) in blueberries from the wild flora, from the previously mentioned area, of certain mineral elements, resulting in the following profile: 1. essential: Na (19.39), K (1126), Ca (112), Mg (78.9), Mn (3.97), Fe (5.35), Zn (2.88), Cu (1.95), Cr (0.025); 2. potentially toxic: Pb (<0.10), Cd (<0.02). The obtained results allowed the evaluation of the mineral intake in the recommended daily diet for a consumption of 400 g of fresh product. Subsequently, investigations were conducted on the dry matter (15.86÷18.53 %) and mineral salts (ash) (0.23÷0.26 %).

Keywords: wild blueberries, mineral profile, trace elements, nutritional assessment, pedoclimatic conditions, food safety.



Conclusions It can be stated that this source (spontaneous and/or cultivated), integrated into the current diet, contributes beneficially to maintaining a healthy homeostatic balance. However, the data recorded in the literature, confirm a variable evolution in the distribution of micro- and macro-nutrients for spontaneous versus cultivated flora. This variability is influenced by factors such as variety, soil characteristics, agricultural techniques, and pedoclimatic conditions.

FIG. 1. Blueberries and their health-promoting mineral benefits.

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