

Traditional foods from the Black Sea Area countries: minerals and trace elements content

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BACKGROUND/AIM

Minerals and trace elements are essential for biological processes and play a vital role in normal growth and development. Low intake or reduced bioavailability of minerals may lead to deficiencies, which causes impairment of body functions. Due to the unquestionable importance of minerals in human nutrition, sodium (Na), potassium (K), calcium (Ca), magnesium (Mg), iron (Fe), copper (Cu), phosphorous (P), zinc (Zn), manganese (Mn) and selenium (Se) are being determined, as well as other nutrients, in traditional foods from Black Sea Area countries, in the frame of the European Project BaSeFood (Sustainable Exploitation of Bioactive Components from the Black Sea Area Traditional Foods) [1]. The aim of this study was to produce new analytical data of minerals and trace elements content in traditional foods in order to highlight their potential positive health effects.

MATERIALS AND METHODS

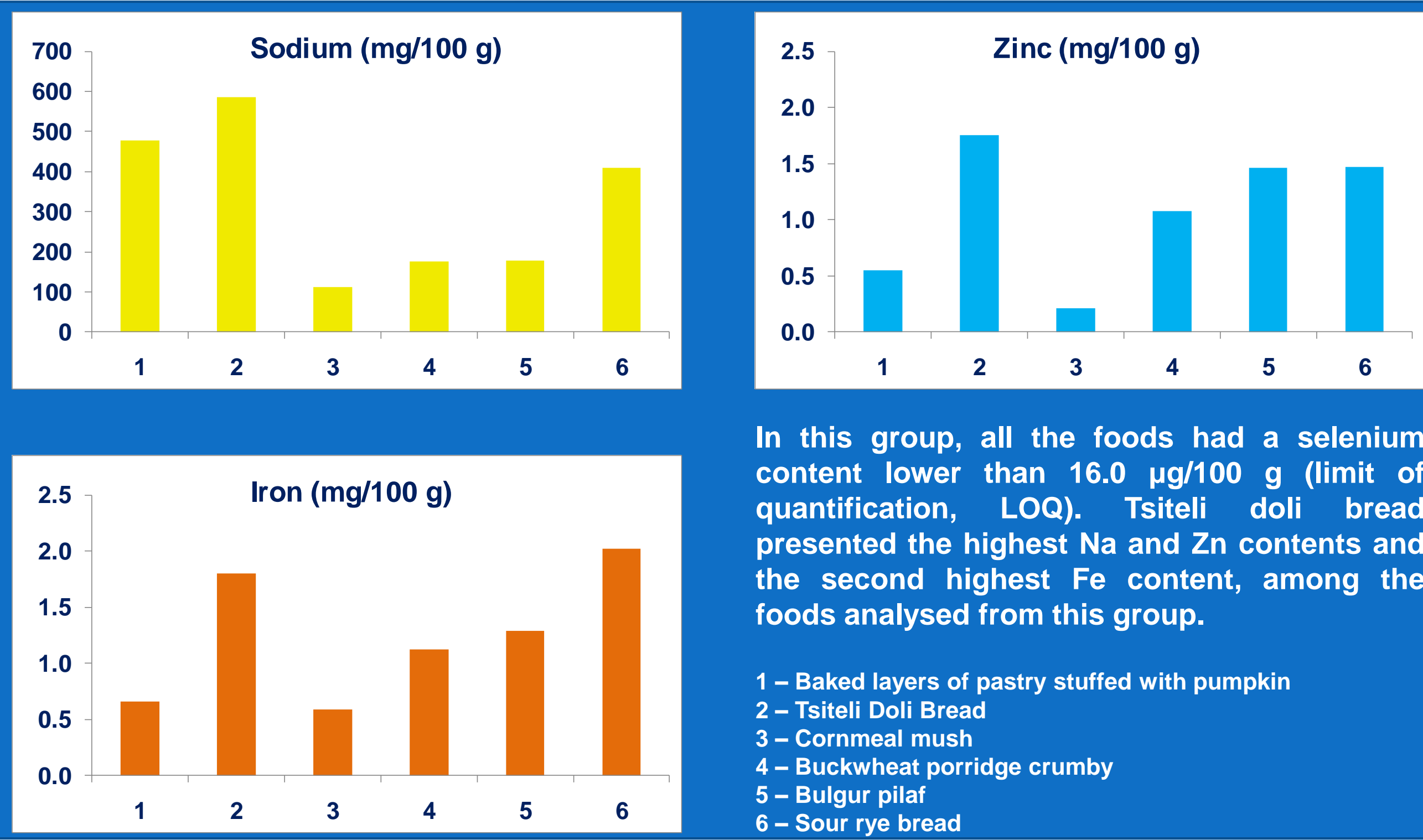
- ✓ All minerals and trace elements were analysed by Inductively Coupled Plasma – Optical Emission spectrometer (ICP-OES) except for selenium which was performed by graphite atomic absorption spectroscopy in the selected traditional foods from Black Sea Area countries.
- ✓ The methods used in this study are accredited by ISO/IEC/17025 or the laboratory participates successfully in proficiency testing schemes.



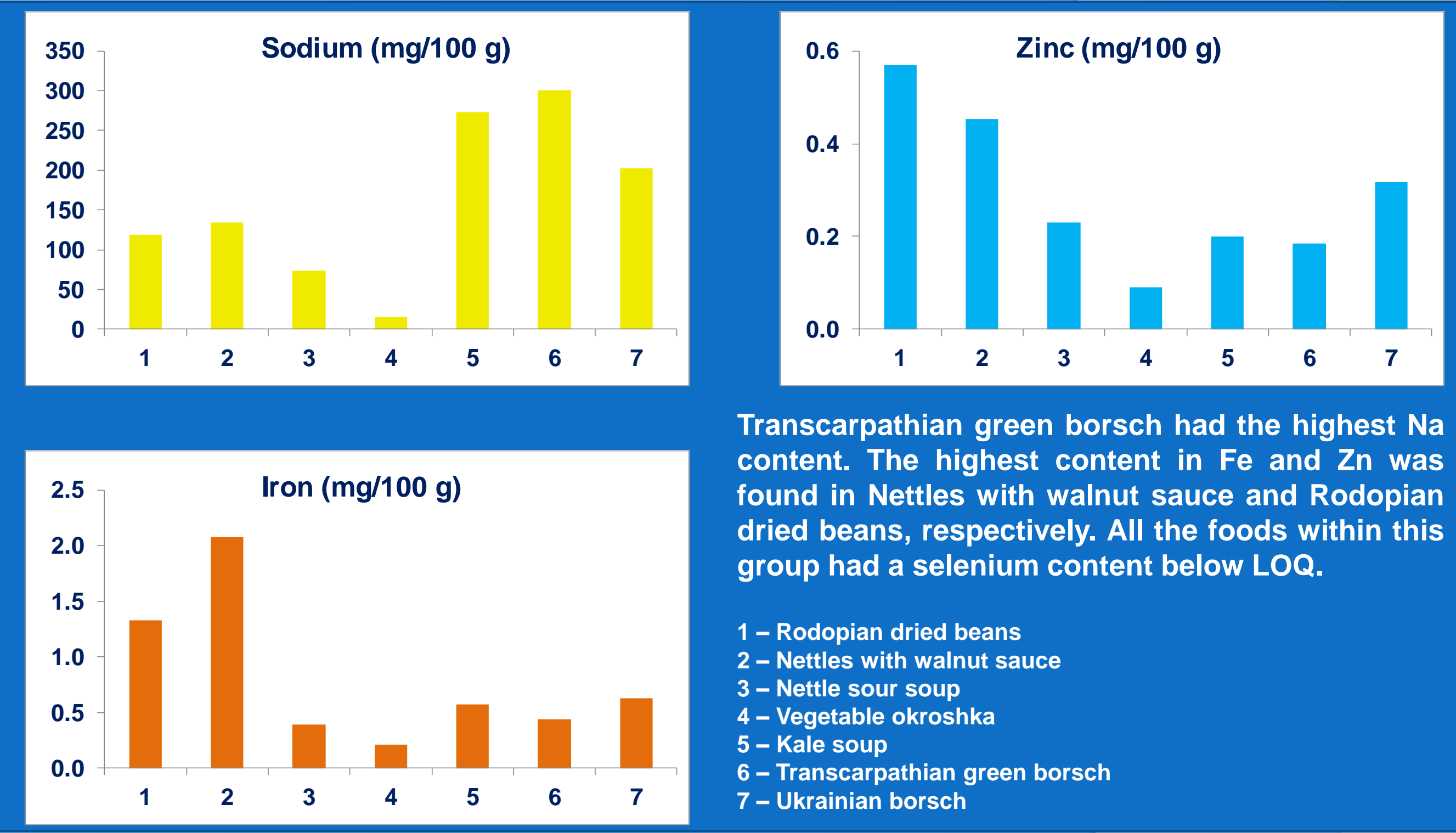
Figure 1. Selected Traditional Foods from Black Sea Area countries.

RESULTS AND DISCUSSION

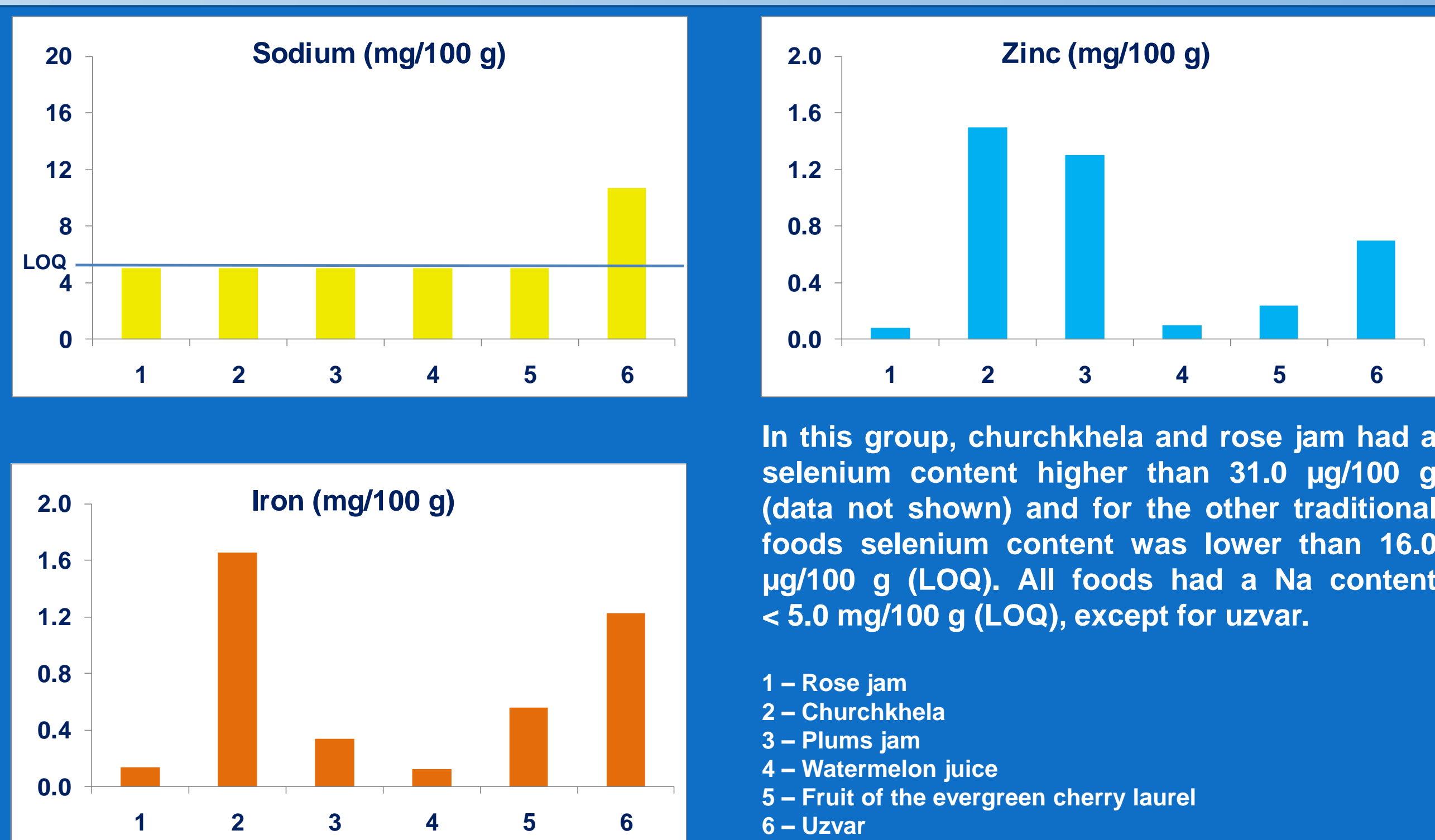
CEREAL OR CEREAL BASED FOODS



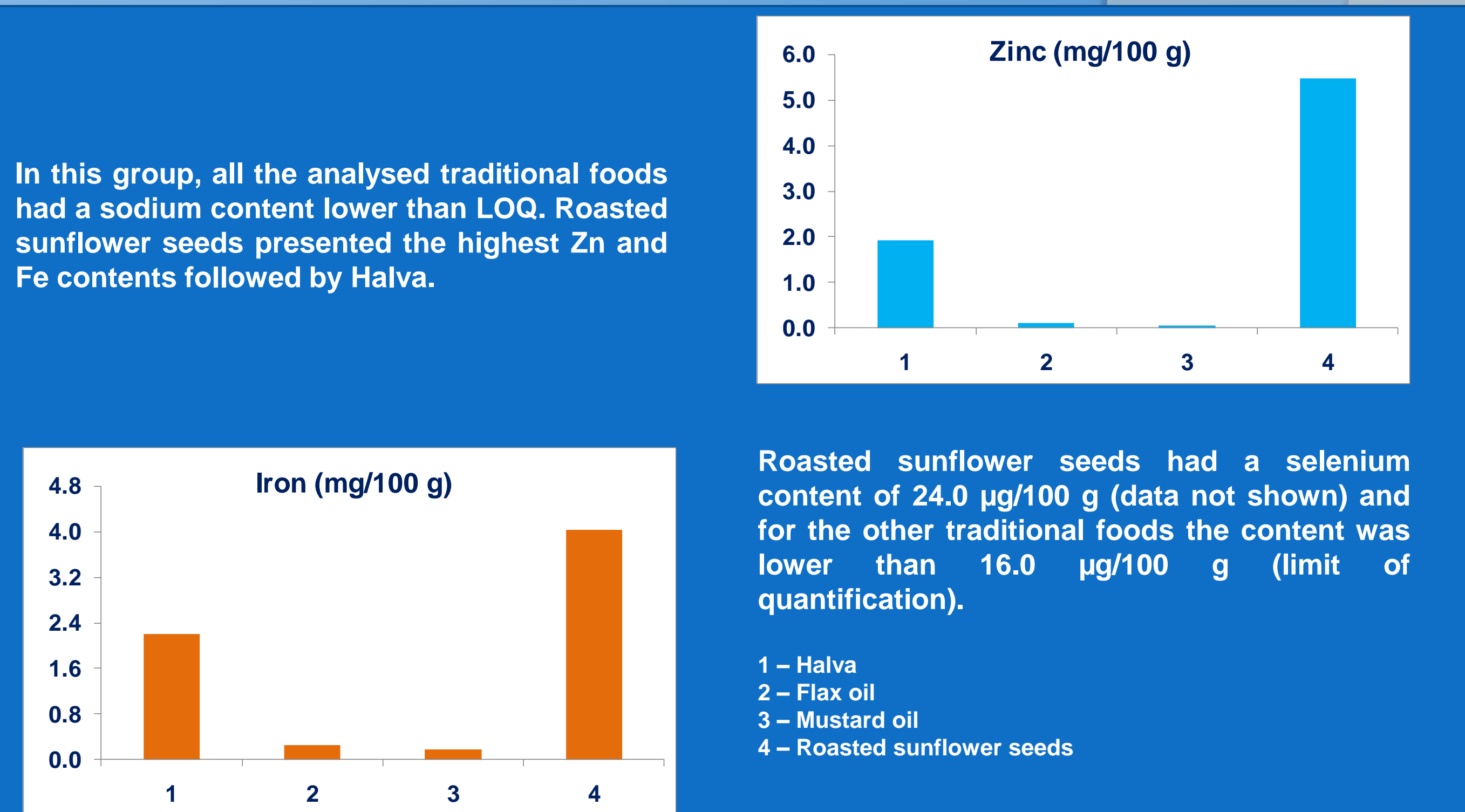
VEGETABLE OR VEGETABLE BASED FOODS



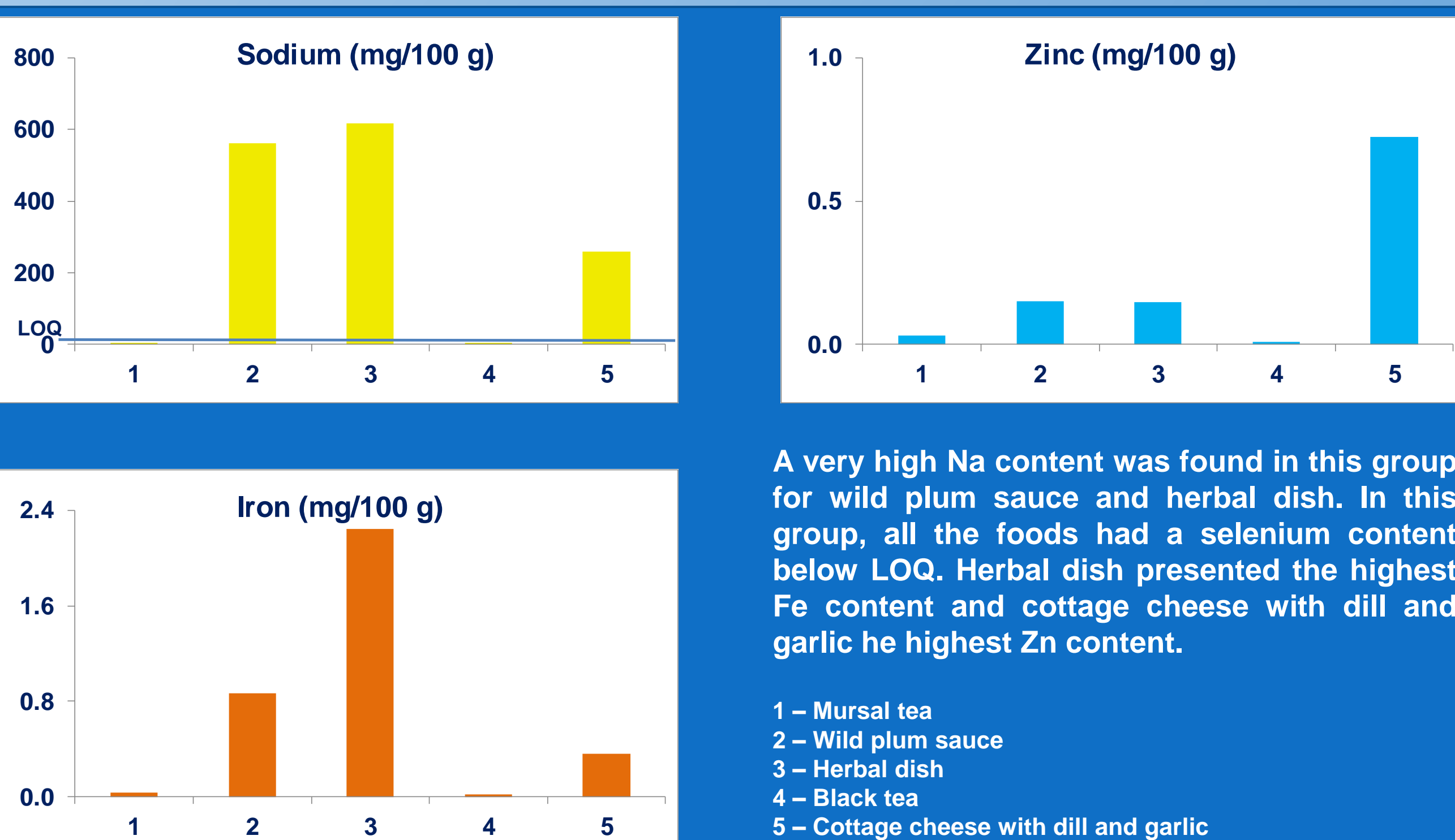
FRUIT OR FRUIT BASED FOODS



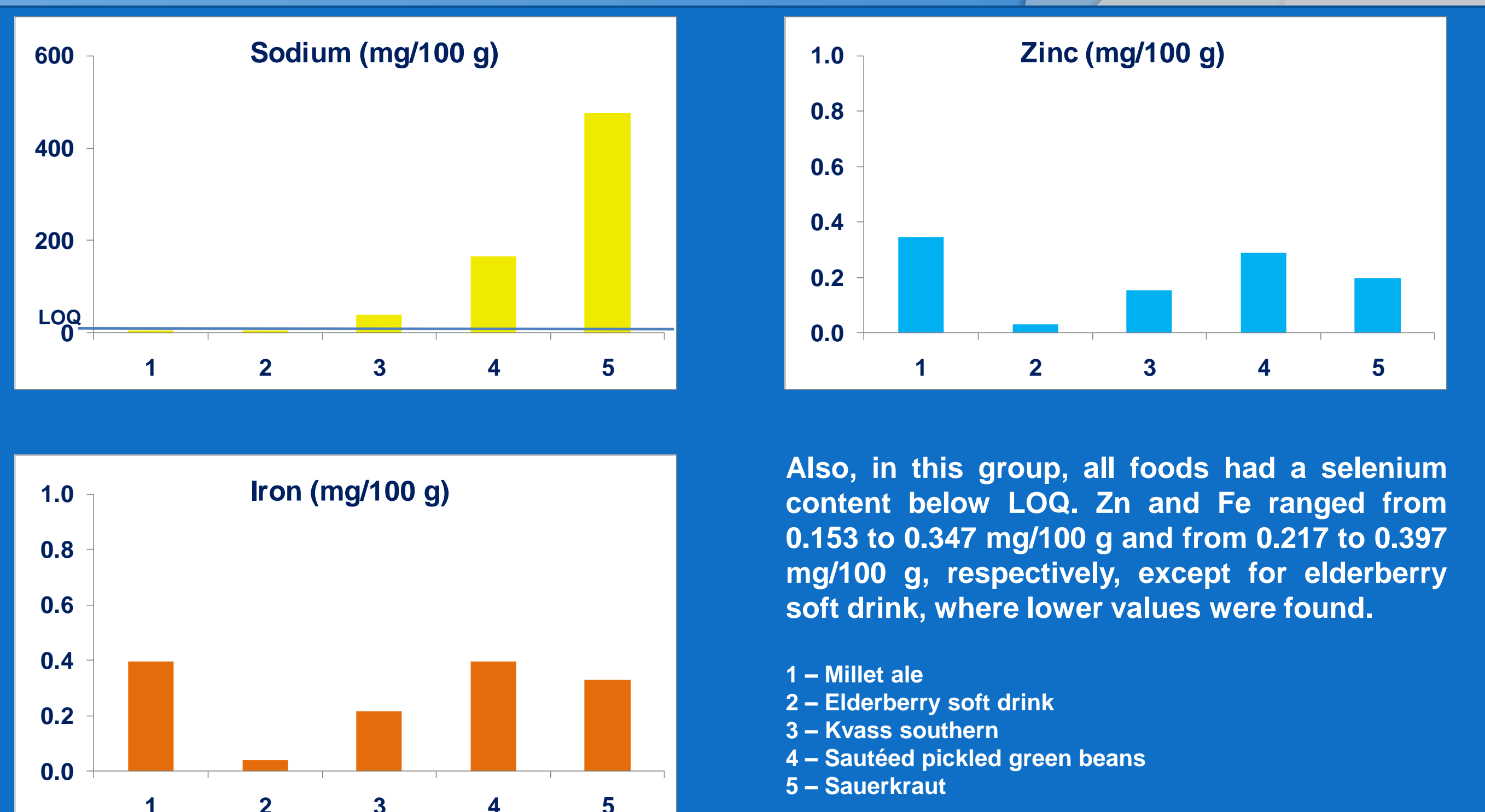
OILSEEDS OR OILSEED PRODUCTS



HERBS, SPICES AND AROMATIC PLANTS



LOW OR NON-ALCOHOLIC FERMENTED FOODS



CONCLUSION

A great variability was found for minerals content in the analyzed traditional foods from Black Sea Area countries. Roasted sunflower seeds is one of the foods that contributes the most for Fe and Zn intake, while baked layers of pastry stuffed with pumpkin and tsiteli doli bread contribute significantly for Na intake. Careful assessment is required in order to evaluate the consequences that these foods might have in human health taking into account the recommended daily intakes of minerals.

ACKNOWLEDGEMENTS

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REFERENCES

[1] D'Antuono L.F., Soares Costa H., Sanches-Silva A. (2010). BaSeFood: Sustainable exploitation of bioactive components from the Black Sea Area traditional foods. Nutrition Bulletin, 35, 272-278