INTRODUCTION

This work was performed within the collaborative research program “Sustainable exploitation of bioactive components from the Black Sea Area (BSA) traditional foods – BaSeFood”. In most of the BSA countries, there is a lack of information on the nutritional composition of traditional foods, therefore, nutritional research on such foods is of great importance. Phytosterols (PS) are bioactive compounds of many foodstuffs, especially in food items of plant origin. PS are known to have several bioactive properties with various implications on human health. Also, the consumption of fatty acids (FA) is important because it can be associated with both negative and beneficial health effects, depending on the FA. The aim of this study was to analyse the total fat, PS and FA profile of 33 traditional foods.

MATERIALS AND METHODS

RESULT

Figure 2. Total fat content of traditional foods from BSAAC.

- 1 - Baked layers of pastry stuffed with mushroom; 2 - Roll Deli Bread; 3 - Crescent muffin; 4 - Buckwheat porridge; crumble; 5 - Bulgur pilaf; 6 - Sour rye bread; 7 - Red onion fried beans; 8 - Nettle with walnut sauce; 9 - Nettle sour soup; 10 - Kale soup; 11 - Trachycephalum grain boza; 12 - Ukrainian borsch; 13 - Churchkhela; 14 - Pumpkins jam; 15 - Uzvar; 16 - Halva; 17 - Flax oil; 18 - Mustard oil; 19 - Roasted sunflower seeds; 20 - Herbal dish; 21 - Cottage cheese with oil and garlic; 22 - Buttered ale; 23 - Sautéed pickled green beans.

Figure 3. Chromatogram of mustard oil sample.

- S-enriched cholesterol; (2) α-tocopherol; (3) Cholesterol; (4) Δ5-desmosterol; (5) Δ7-desmosterol; (6) 5α-Cholest-3-en-28-ol; (7) Ergosterol; (8) Stigmasterol; (9) Stigmasterol; (10) S-Stigmasterol; (11) Stigmasterol.

Figure 4. Chromatogram of a standards mix of 11 phytosterols and vitamin E (α-Tocopherol).

CONCLUSION

Our results show that the total fat and individual fatty acids content varied among the analysed traditional foods. In general, the selected traditional foods from BSAAC have lower fat contents, except for the oils and oilseed groups (samples 16, 17, 18 and 19). Nevertheless, food composition data is required to provide accurate dietary advice and to promote its consumption. Also, these foods can be considered good sources of MUFA and PUFA, since they have been associated with improved serum lipid concentrations and reduced risk of cardiovascular diseases.

ACKNOWLEDGMENTS

The research leading to these results has received funding from the European Community’s Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 227118.