



BIOACTIVE COMPONENTS FROM THE BLACK SEA AREA TRADITIONAL FOODS

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BACKGROUND

The sustainable exploitation of bioactive components from the Black Sea Area traditional foods (BaSeFood) is a 3-year collaborative research program, funded by the 7th Framework Programme, launched on the 1st of April 2009. The project consists of a research consortium of 13 partners namely, Italy (2), United Kingdom, Greece, Portugal and Serbia and six Black Sea Area Countries (BSAC): Russian Federation, Ukraine (2), Romania, Bulgaria, Turkey and Georgia. BaSeFood will contribute scientifically by studying the bioactive compounds within traditional foods of the BSAC using rigorous analytical and biological assays. The vast array of characteristics of traditional foods will be considered, as well as any associated consumer-perceived benefits, related with health claims, so that they can be properly understood by the consumer and exploited by food processors to produce more healthy traditional foods.

TRADITIONAL FOODS FROM BLACK SEA AREA

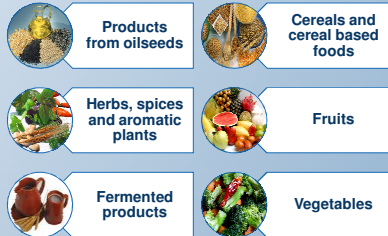
CATEGORIZATION OF SELECTED FOODS

METHODOLOGY

Black Sea Area Countries

Foods were categorized in the following groups

35 traditional foods were selected



All the foods will be analysed in order to determine

Proximates	Moisture, ash, total nitrogen (for protein), total fat, individual fatty acids, cholesterol, dietary fibre, total sugars and starch
Vitamins	Vitamin A, vitamin C, vitamin E and vitamin B ₂
Minerals & trace elements	Sodium, iron, zinc and selenium
Bioactive compounds	Phenolics, glucosinolates, tocopherols, carotenoids and terpenoids

FRUITS, VEGETABLES AND HERBS IN BaSeFood

Fruits, vegetables and herbs are widely consumed, often in large amounts, especially in the south eastern part of the region.

In BaSeFood, out of 281 traditional foods described so far, 154 have vegetables (109), fruits (30) and herbs (15) as the main, sometimes unique, component. Many others contain these as ingredients.

Among major fruits, plums, grapes and apples are the most widespread. The so called minor species are sometimes widely used. Some of them are relevant for bioactive substances (pomegranate, blueberries, sea-buckthorn); others may have still unexplored potential (black mulberry, dogwood, barberry).

Fresh herbs are eaten daily, in huge amounts, in N-E Turkey and Georgia, with potential high intake of flavonoids, carotenoids and sometimes glucosinolates; the most common species are dill (used everywhere in the area), tarragon, watercress, red basil, Eruca rocket salad, coriander.

Fruits, vegetables and herbs, are the basis of local food preparations, often with interesting putative bioactive contents and combinations, among which the following seem to be very interesting:

- Condensed fruit juices with nuts: phenolics, carotenoids, essential fatty acids, phytosterols, tocopherols;
- Fruit pastes with herbs and spices: phenolics, carotenoids, capsaicinoids, specific terpenoids;
- Leafy vegetables with nuts: flavonoids, carotenoids, essential fatty acids, phytosterols, tocopherols.

1. Mixed dried fruits to prepare compotes, Odessa market, Ukraine. 2. Thkernali, a Georgian sauce made of fruits and spices. 3. Fresh pressing of pomegranate juice, Odessa, Ukraine. 4. Dried melons, Odessa, Ukraine. 5. Pkhali, Georgian dish of minced vegetables, nuts and spices. 6. Fresh herb selling, Tbilisi market, Georgia. 7. Black mulberry fruits, Tbilisi market, Georgia. 8. Selling fresh herbs, Erevan market, Armenia. 9. Dried fruit feast, Erevan Market, Armenia. 10. Fresh fruit feast, Erevan market, Armenia. 11. The kastamonu garlic, Turkey. 12. Cornelian cherry fruits, Kastamonu market, Turkey. 13. Grape variation, Erevan market, Armenia. 14. Eruca rocket salad and watercress, Trabzon, Turkey. 15. Local turnips, Trabzon, Turkey. 16. Dried persimmon fruits, Trabzon, Turkey.

The way of processing is also interesting, and with potential effects of bioactive components. Home processing responds to the need of preservation for year-round availability. The fate of bioactive components in these processes is still poorly known.

- Fresh fruit juices are offered for several species, and also preserved by pasteurization;
- Fruit juices are condensed in molasses, for long term storage, and different uses;
- Fruit pastes are condensed and dried;
- Fruit drying is a typical way of preservation in the area;
- Vegetables are mostly pickled;
- Herbs are also dried, for year round uses.

Local resources for biodiversity conservation and health:

- Local plant types are used, but still scarcely characterized and little promoted;
- Traditional foods with plums are mainly prepared with local varieties
- Georgian grapes have a well known biological diversity;
- Several vegetables are grown with local types, such as kales, garlic, and many others, still scarcely promoted and characterized.



CONCLUSIONS

This study will contribute to produce reliable analytical data of the overall nutritional and bioactive content of the selected traditional foods, and compare the obtained results with Food composition databases. Moreover, the bioactive components, nutritional and microbiological characterization of the selected traditional foods will contribute to create the knowledge base for a sustainable economic development in the area of production and processing of tradition-based healthy foods.

Fruits, vegetables, and herbs of the Black Sea region, and the related foods, represent a precious reservoir of biological and cultural diversity. They are mostly still scarcely characterized for the content of bioactive substances. BaSeFood is contributing to their knowledge and to open the way to a potentially vast field of investigation.

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