



## Edible insect, flowers and mushrooms - perspective raw materials for food industry

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### Abstract

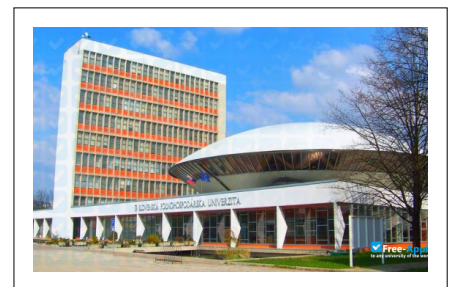
Population and income growth drive the demand for food and bring about changes in people's dietary preferences. Edible insects as an alternative protein source for human food and animal feed are interesting in terms of low greenhouse gas emissions, high feed conversion efficiency, low land use, and their ability to transform low value organic side streams into high value protein products. More than 2000 insect species are eaten mainly in tropical regions. Insects have been highlighted as an important food source in response to the growing concerns about the future of world food security. The consumption of flowers in ancient time is known, on one hand, for being a part of traditional culinary practices, while being also used in the field of alternative medicines. The clients of edible flowers are gourmet restaurants and their associated food service operations, and grocery stores. So, to eat edible flowers is a new trend, described as one of the "six trends of food and drinks in gastronomy". Edible flowers possess nutritional value – being rich in moisture, carbohydrates and protein, and being low in lipids. They also contain interesting amounts of ash, including dietary minerals such as calcium, iron, potassium, magnesium, phosphorous or zinc. Furthermore, they contain bioactive components, such as phenolic compounds, which contribute to their high antioxidant activity, while also conferring color and aroma. The rising demand for functional food free from synthetic chemicals indicates the awareness of people on quality food. The excellent texture and unique flavour of edible and medicinal mushrooms makes them universally accepted by all age groups. Due to the production of a large variety of secondary metabolites with exceptional chemical structures and interesting biological actions they are reservoir of valuable chemical resources. However, there is very little awareness on mushrooms as a healthy food and as an important source of biological active substances with medicinal value. Mushrooms are highly nutritive, low-calorie food with good quality proteins, vitamins and minerals. Mushrooms are an important natural source of foods and medicines. By virtue of having high fiber, low fat and low starch, edible and medicinal mushrooms have been considered to be ideal food for obese persons and for diabetics to prevent hyperglycaemia. They are also known to possess promising antioxidative, cardiovascular, hypercholesterolemia, antimicrobial, hepatoprotective and anticancer effects. More than 3000 mushrooms are mainly edible species but, only 100 species are cultivated commercially, and only ten species are used at industrial scale and their global and economic value is now increasing slowly due to increase in their value as a food as well as their medicinal and nutritional values.

Edible insect, flowers and medicinal mushrooms, rich for wide range of bioactive compounds are considered to be promising, economically and ecologically advantageous raw materials for the food industry.

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### Biography

Eva Ivanišová has completed her PhD at the age of 29 years from Slovak University of Agriculture in Nitra (SUA). She is an assistant professor at the Department of Technology and Quality of Plant Products, Faculty of Biotechnology and Food Sciences, Slovak University of Agriculture Nitra, head of Laboratory of Fats and Oils in Research Centrum AgroBioTech in SUA Nitra. She solved resp. it addresses 14 research home projects but also educational and 2 international projects. She is the author, resp. co-author of 6 scientific and professional monographs, resp. chapters issued in domestic and foreign publishers; totally 350 publications, from which 19 publications in the Current Contents, 56 domestic and foreign Impacted journals in the Web of Science or SCOPUS. Totally 213 citations, in which Web of Science and the SCOPUS presented 173. She is the co-author of 2 patents.



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