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## Nutritional value of edible insects

Lenka Kourimska, Martin Kulma, Vladimir Plachy and Anna Adamkova Czech University of Life Sciences Prague, Czech Republic

**Statement of the Problem**: In the recent years, insects are very often reported to be an alternative protein source. Since January 2018 insects have been recognized as a novel food in the EU. Chemical composition of edible insects is known to be influenced by many factors, so it significantly varies among different species as well as within the same insect species. Nutritional value of insects depends on their feed, the rearing conditions and many other factors.

**Purpose**: The purpose of this study is to evaluate the nutritional value of insects recommended by EFSA as possible species for human consumption and the effect of sex and developmental stage on the nutritional value.

**Methodology**: Nutritional value of selected insects: *Tenebrio molitor*, *Acheta domestica*, *Zophobas morio* and Blattodea species was evaluated by analyzing their basic nutrients such as fat and protein content as well as their fatty acid and amino acid profiles. Dry matter, ash and chitin content were also determined. Essential amino acid index as well as atherogenic and thrombogenic indexes were calculated.

**Conclusion & Significance**: Edible insects could be a good source of protein as well as lipids and their nutritional value is more or less comparable with the conventional protein sources. Their basic nutrients composition depends on sex; males of Acheta domesticus contained significantly higher protein and lower lipid content than females; as well as on the developmental stage adults of Blattodea species contained more crude protein and ash, but less fat sub adults. On the other hand, the quality of nutrients expressed by amino and fatty acids profile and indexes calculated from them were similar. These findings may contribute to better evaluation of nutritional value of insects as novel food.

kourimska@af.czu.cz