

# EYEC Monograph

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Editorial Team of EYEC Monograph

## **Analysis of fatty acids composition in *Tricholoma equestre* fruiting bodies**

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*Tricholoma equestre* (L.) P. Kumm. (Man on horseback) is a popular species of edible mushroom. This species was selected for the experiment because it is a commonly consumed mushroom that is allowed to be sold on bazaar in many countries include Poland. It was proven that this species is a good source of zinc and other biologically active substances. Based on scientific data is good known that biologically active constituents of *Tricholoma equestre* – fatty acids, exhibit role in prophylaxis of hypertension and coronary heart disease.

Thereby, the aim of the research was to study content of fatty acids and their profile in lyophilized fruiting bodies of *Tricholoma equestre*. In order to study the chemical composition of fatty acids, their cyclohexane extract was studied using GC-MS. Fatty acids were esterified using 98% H<sub>2</sub>SO<sub>4</sub>/MeOH anh. to obtain FAMES (fatty acid methyl esters).

Eleven fatty acids were detected and quantified: myristic acid, pentadecanoic acid, palmitic acid, heptadecanoic acid, stearic acid, oleic acid, vaccenic acid, linoleic acid, arachidonic acid, behenic acid, and lignoceric acid. Palmitic, oleic and linoleic acids were determined in highest amounts (respectively 28.84%, 28.59%, and 28.29% of total content). The analyzed total fatty acids profile contain saturated fatty acids (40.25%), monounsaturated fatty acids (31.12%) and polyunsaturated fatty acids (28.63%).

To ensure the proper functioning of the human body, it is necessary to have a balance between the saturated and unsaturated fatty acids in daily diet. Based on obtained results *Tricholoma equestre* species is a good natural source of unsaturated fatty acids and can be a valuable component of everyday diet.