

DETERMINATION OF MINERAL COMPOSITION OF HEMP MORPHOLOGICAL PARTS (*CANNABIS SATIVA L.*) DURING VEGETATION BY MEANS ICP-MS

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The current climatic and economic scenario encourages humanity to use sustainable resources to reduce our dependence on petrochemicals and reduce the negative environmental impact. Plants are valuable and natural resources because they can provide us with the chemicals that humans need. *Cannabis sativa L.*, also known as fibre hemp, is one of the oldest cultivated and herbaceous plants in the world, with many valuable natural components that have been used by folk since ancient times. For many years mankind has cultivated this plant for a variety of purposes, some as a source of food, others as a fuel or building material, and others as for medicinal purposes. Hemp plants are rich in nutrients and health-enhancing ingredients, including vitamins, mineral salts and macronutrients, and at least one hundred different cannabinoids[1]. Deficiency of mineral nutrients such as Fe, I, Zn, Ca, K, Mg is a growing nutritional problem in human populations. The versatility of hemp leaves and stems and the composition of their components can lead to the sustainable development of many products for use in the food, cosmetic and medical industries [2].

The aim of this study was to find out the amount of mineral composition of hemp morphological parts (*Cannabis Sativa L.*) during vegetation by means ICP-MS. Mineral composition of variety Felina 32 was determined during this study.

In the present study, 3 hemp raw materials (stems, leaves and blossoms) were analyzed. Samples were collected from Institute of Agriculture (LAMMC) field experiments. Investigated samples differ in their growing conditions. Different fertilization rate and density were applied. All samples were filled with concentrated nitric acid and placed in a device called MARS6 for mineralization. Mineral composition of digested hemp samples was investigated by means ICP-MS method.

Obtained results, as well as sample preparation methodology step by step, will be presented at the conference.

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