



Cultivation of industrial hemp (*Cannabis sativa* L.) in Slovenia

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The project includes a comprehensive study on the possibilities for successful production of industrial hemp in Slovenian growing conditions – aiming at finding suitable varieties for production in Slovenia for the purpose of seed and for the purpose of fibre production. At the same time, objectives are to define agrotechnical arrangements for this crop with the goal of stable production of quality and safe yield. The goal is also to prepare a basis for production of our own hemp varieties. Following this, we expect a positive impact on the quantity of home-produced products from hemp seed and stalks in our market. Identified agronomic and economic parameters will provide growers a possibility of a sovereign decision for production.

The goals of the project proposal are:

- ✓ to create a list of suitable varieties for cultivation of hemp in our growing conditions for seed production (in terms of achieving adequate / good and stable crop yield with good / adequate nutritional quality, not too strong / tough stems and sufficiently low in $\Delta 9$ -tetrahydrocannabinol (THC),
- ✓ to create a list of suitable varieties for cultivation of hemp in our growing conditions for fiber production,
- ✓ prepare technological guidelines for the cultivation of industrial hemp in our growing conditions for three now in Slovenia, the most widespread varieties (sowing time, sowing density and fertilization),
- ✓ to create a basis for the Slovenian varieties production,
- ✓ economic evaluation of the production of industrial hemp,
- ✓ to make a concept for machine for harvesting hemp seeds,
- ✓ in cooperation with growers create or refine a prototype machine for harvesting hemp and perform its testing,
- ✓ transferring knowledge into practice.

Partners in the project have many references in this field; their collaboration in the national and international level is high. Partners in the proposed project are: Slovenian Institute of Hop Research and Brewing, Biotechnical faculty of the Ljubljana university –

Department of agronomy and Department of Food Technology, Institute of Nutrition and Faculty of Mechanical Engineering of the Maribor university.

In the project, a direct participation with the users is planned; a cooperative and social enterprise Ekoci Coop will collaborate. The project is designed in eight work packages:

(A) The examination of the adequacy of varieties of industrial hemp from European list of varieties for cultivation in our agricultural areas, and examine the existing technology of production of this crop in our country and around the world, (B) Variety and technological experiments with industrial hemp, (C) Chemical analyses of soil, seeds and oils, (D) Evaluation of the nutritional value in the experiments produced seed oil and of hemp, (E) Analysis of hemp fibre with the aim of selecting the most suitable varieties for the production of fibres, (F) Creating of the basis for our own varieties production, (G) Economic evaluation of the production of industrial hemp and (H) A machine for harvesting hemp.

The basis of the project are varietal and technological field trials with different varieties of industrial hemp from the EU list in two different regions of Slovenia. Crop seeds from field trials will the continuation of the project serve as a raw material for chemical analysis, the analysis of the nutritional value and fiber analysis. At the same time, we will consider the existing research results at home and abroad, and experience of growers. Production will be economically evaluated; on the basis of data from practice and the results of field trials. A prototype of a machine for harvesting hemp seeds will be elaborated.

The project includes various and many ways of transferring knowledge and new findings from all the project partners in the practice in a manner that will live on beyond the end of the project.