

UNIHEMP – CANNABIS PROTECTIO

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The UNIHEMP research project “Use of iNdustrIal Hemp biomass for Energy and new biocheMicals Production” (ARS01_00668) is funded by PON “Ricerca innovazione” 2014 – 2020 – Azione II – OS L.B). Started in May 2019, it aims at the creation of a technology platform for the exploitation of waste from the cultivation of hemp, for long time a neglected plant, which actually represents a fundamental natural source of raw materials and, due to its versatility, can replace most of the materials produced by means of polluting techniques. The parts of the plant that are currently used are the seeds, intended for the production of oil and flour, and the fibers, which are derived from the stalk, used in the production of biomaterials (plastics, paper, textiles). The UNIHEMP project sets its foundations on the valorisation of waste as a source for the production of new biochemicals of manufacturing, cosmeceutical and renewable energy. A crop waste is represented by the apical part of the plant, the inflorescence, actually rich in extremely interesting secondary metabolites from a pharmaceutical point of view, as well as the shives, that is, the woody part of the stalk that remains after the fiber is removed. The project aims to create a circular economy around the hemp chain, where its waste comes into new production cycles, such as those of biochemicals with high added value and renewable energy. In line with Europe 2020 and Innovating for Sustainable Growth: Bioeconomy for Europe, UNIHEMP aims to remodel the concept of production by focusing on the use of sustainable biological resources and their conversion (with waste streams) into value-added products (biochemicals and bioenergy), in the broader perspective of an advanced European bioeconomy that will allow smart and green growth.

In order to achieve the goals of the project, several studies will be conducted on agronomic aspects, biotechnological aspects of the lignocellulosic biomass and biochemicals production chains, on the valorisation of by-products with the creation of a network of companies interested in producing energy and biochemicals, creating close synergy between private companies and public research partners.

The CREA – Research Center for Cereal and Industrial Crops, (CREA-CI) – is involved in the UNIHEMP project with different activities. The high level of expertise in green chemistry as in the use of hemp in the field of bio-refineries integrated in the territory will prove to be crucial in the realization of the project as a whole, and in the individual proposed objectives.