

CHIC: Chicory as a multipurpose crop for dietary fibre and medicinal terpenes

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Known for its health beneficial properties since ancient times, root chicory (*Cichorium intybus L.*) is nowadays a rather under-utilized crop in Europe. CHIC is the Chicory Innovation Consortium and will change this in a Horizon2020 funded project. By using New Plant Breeding Techniques (NPBTs), chicory will be established as a multipurpose crop, i.e. by optimizing the production of bioactive and health-related products with clear benefits for consumers. The NPBTs will be used to steer bioprocesses in chicory and mobilize its under-explored potential to produce immunomodulatory prebiotics and medicinal terpenes. Four different approaches within NPBTs are tested to improve chicory in this highly interdisciplinary project together with European

scientific project partners, end-users and SMEs.

JKI's focus lies on a DNA-free genome-editing approach with RNA-guided endonucleases like Cas9. Furthermore, the evaluation of the different established NPBT approaches, the identification of potential off-target effects, the evaluation of safety aspects and the regulatory landscape by using these NPBTs fall under JKI's tasks in CHIC. Chicory will be boosted as a robust multipurpose crop, tolerant to adverse environmental conditions from which bioactive compounds can be extracted, contributing to sustainable agriculture and a bio-based economy in Europe.