

Yield and cannabinoid content of different industrial hemp (*Cannabis sativa* L.) varieties

Status

Completed

Duration

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Description

The aim of this master thesis was to evaluate in a field trial different industrial hemp varieties, approved in the EU with a THC content of less than 0.2%, with regard to the production of cannabinoids at different stages of development and in different harvest organs. For this purpose, a field trial was set up at the experimental location Ihinger Hof. Seven industrial hemp varieties were cultivated, namely Finola, Féline 32, Futura 75, Santhica 27, Ferimon, USO 31 and Fédora 17. Samples were carried out for the vegetative leaf stage, bud stage, full-flowering stage and seed maturity stage. The harvested plants were fractionated into stem, upper leaves, lower leaves and inflorescence. At the ripening stage, the hemp seeds were additionally threshed from the inflorescences. The individual harvest organs were weighed in order to be able to draw conclusions about the yield per unit area. Furthermore, the cannabinoid content in the individual harvest organs was measured by NIR spectroscopy. The results showed that the cultivation of industrial hemp varieties, which were originally bred for fibre or grain production, can be considered for an additional cannabinoid production. In addition to the production of cannabidiol (CBD), the multiple use of the crop (CBD, grains and fibre) allows the use of by-products and thus increases the profitability of selected varieties.



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