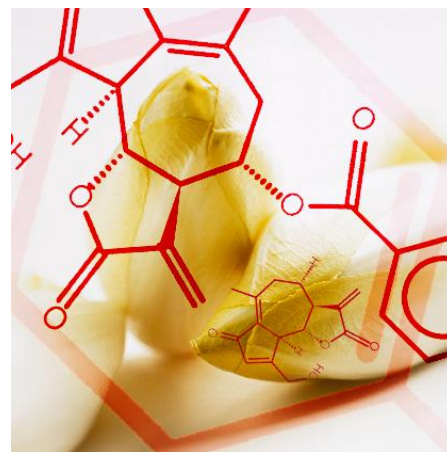


FLAVOUR COMPONENTS OF CHICORY (BELGIAN ENDIVE)

Chicory (*Cichorium intybus* L.) is an important crop in several West European countries. It is cultivated in two phases. In the first phase, chicory plants are grown in the field. The carrot-like roots are harvested and used for the second phase of cultivation, i.e. forcing of the roots resulting in the production of chicons. Chicons can be consumed raw or cooked and have a characteristic bitter taste. In recent years, the profitability of chicory farms is under pressure. A possible reason is lack of diversity, and diversification of the chicory supply may make this vegetable more attractive to the consumer.

The objective of this PhD research project is to acquire profound knowledge of the flavour components (sugars and bitter components) of chicory. In a first phase, fast instrumental techniques for measuring chicory flavour components will be developed. HPLC(MS) will be the reference technique. Fast techniques that will be developed include enzymatic biosensor arrays for sugars, ELISAs for bitter components and NIR reflectance measurements for both sugars and bitter components. Subsequently, these techniques will be applied to gain a clear insight into the flavour components of chicory, how these components vary between old cultivars used in soil production and more recent commercial hybrids and also as a function of cultivation techniques. Through sensory panels, a relation between bitter components and bitterness and between sugars and sweetness will be sought.



PROFILE

We are looking for an enthusiastic candidate with preferably a Master degree in bio-engineering, biology, chemistry or equivalent. Interest in instrumental analytical techniques is recommended. International candidates with a MSc degree who have distinguished themselves during their education are encouraged to apply.

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