BioBoost
Accelerating biobased horticulture

Yacon pulp ice cream

Crop	Yacón *Smallanthus sonchifolius*
Croppart	Roots / Tubers
Application area	Food & feed
Status	Development stage
Public availability	Non-public
Relevant plant compounds	inulin

Description

After a lot of testing VIVES managed to make a tasty and healthy yacón ice cream. This turned out to be a far greater challenge than originally thought. Objectives of the research are:

- To make ice cream out of yacón Yacón pulp (a side power when making yacón syrup)
- Ice cream with a rate of 25% yacón
- Healthier ice cream with less fat and less sugar
- Affordable ice cream: price should be comparable with diet ice cream

Yacón is a new emerging vegetable (root vegetable), with the advantage that it is rich in inulin, a prebiotic with health-giving properties (e.g. against diarrhoea). Inulin is a carbohydrate (fructo-oligosaccharides (FOS)), a collective name for sugar chains that are not metabolized by humans and so exhibit a low calorific value what is interesting to people with diabetics or obesity.

In addition, inulin can be used by its sweet taste as a sugar substitute and inulin also has fat emulsifying properties that results in less fat that is needed to make ice cream.

The yacón ice cream currently has both a fat and sugar reduction of around 80% over standard vanilla ice cream! With this result the yacón ice cream scores even better than diet ice cream!

Diet ice cream is often on the basis of Stevia and often gives an undesirable aftertaste. In addition to the inulin of the yacón an extra sugar substitute (around 10%) is added. VIVES tries currently several sugar substitutes.

VIVES is still working on the recipe of scoping the ice cream long-term. There are already market parties interested to launch this ice cream on the market in the future.

Pros and cons

- Creating a sustainable and healthy snack

- New product on a very competing market
- Yacon is not well known yet

Co-products and residuals

The peels and the rotten tubers can be used as a substrate for insect rearing

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Used conversion methods

Mechanical-Physical processes

Pressing

Chemical processes

Pulping

Resources

https://www.bioboosteurope.com/en/news/bioboost-research-leads-to-healthy-yacon-ice-cream Initiative website