Fermented root vegetables as synbiotic products

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Circular bioeconomy

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RootBioMe

- We believe good health begins in the gut, where our mutual connections with microbiome have evolved over millions of years.

- Because of our modern, urban lifestyles, many of us don't have easy access to the environments that support a healthy microbiome - full of diverse, rich populations of helpful bacteria.

Our aim is to provide healthy plant based products that support our microbiome.

We develop & provide plant based synbiotic products that are minimally processed

Probiotics-
bacteria that enrich directly our microbiome

Prebiotics-
is food for good beneficial bacteria

We developed
synbiotic product
by combining probiotics and prebiotics

Vegetables as source of beneficial bacteria

RootBioMe has discovered that Jerusalem artichoke (*Helianthus tuberosus,* also known as topinambur) have very diverse bacterial communities, which have a great potential for influencing microbial communities in the human intestine.

Helianthus tuberosus

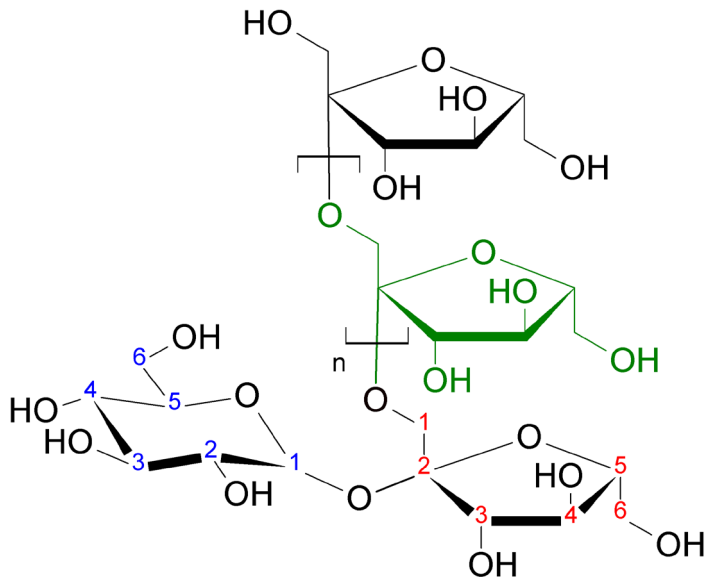
Helianthus tuberosus roots

- The main **prebiotic** in the Jerusalem artichoke is inulin. Only gut bacteria can break inulin into fructooligosaccharides (FOS).

- Inulin and FOS act as food for several beneficial bacteria in the gut, including *Bifidobacteria*. FOS is used in functional foods.

- bacteria living in our intestine cleave inulin and produce short chain fatty acids (SCFA), which in turn are very beneficial for the our health.

- RootBioMe continues to develop technologies that enrich FOS in foods



Inulin molecule

Synbiotic Jerusalem artichoke CHIPS & POWDER

- We have isolated the lactic acids bacteria (LABs) from Jerusalem artichok and use them for fermentation of the Jerusalem artichoke roots.

- After fermentation, our chips have a high concentration of lactic acid bacteria (**probiotic component**) with inulin and FOS (**prebiotic component**)

Freeze dried fermented synbiotic chips and powder are healthy products that can prevent or alleviate several health problems: improve our metabolism and protect against cardiovascular diseases

We have developed freeze dried chips with diferent flavours and powder from fermented Jerusalem artichok

Inulin 60%

Lactic acid bacteria:
more than 10^{10} per gram

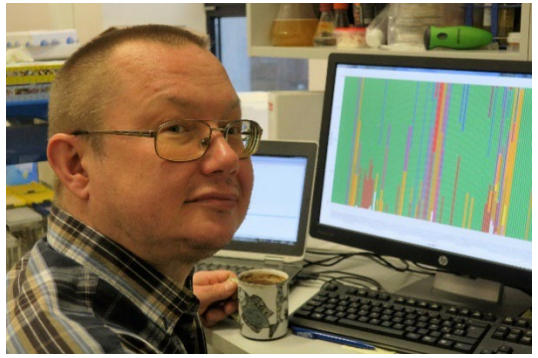
Our trade mark is:

MAA

(„Earth“ in Estonian language)

- The chips can be enjoied directly
- The powder as component of salads, smooties etc.

Scientific co-founders:



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Molecular microbiology

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Human gut microbiome

University of Tartu
SPIN-OFF
company

We produce our products
in collaboration with established **partners**.

Ecological farmers from Southern Estonia produce
the raw vegetables.

In Freezedry factory
we process the vegetables
and produce chips & powder.