

A 3.4. Development of tools for innovation transfer

A 3.4. Description

(2) Considering the risks and threats that are becoming evident on the market, it is necessary to share information among small producers of healthy niche products (including not-from-concentrate juices, nectars, and smoothies). This segment would be addressed by booklets and leaflets, which are to be made freely available also on the webpage in a printer friendly version.

Outputs

2) Online booklets and leaflets about the production of healthy niche products.



Target group(s) and use of the main output

The developed tools in the form of booklets and leaflets are to be disseminated among SMEs, while smart phone applications will be made available for diverse stakeholder groups, including fruit growers, consumers, and researchers.

These materials will be prepared electronically and available on the webpages of the involved institutions.

Therefore they will be available for the use not only for the Project partners, but also for others stakeholders in the BSR countries.



A 3.3. Products development and demonstration

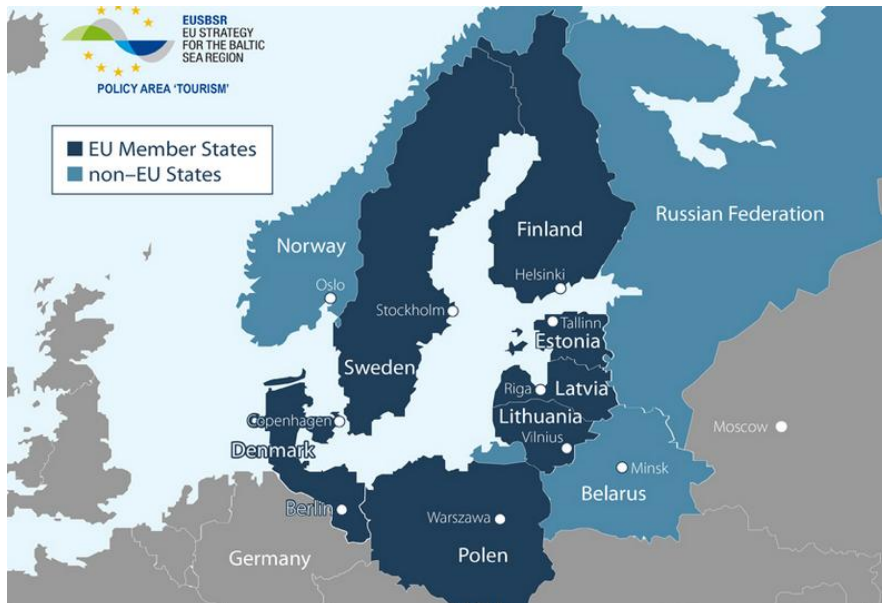
Outputs

Developed and demonstrated products at SMEs and research organizations:

- 1) In collaboration with PP1 and PP3, partners PP7 and PP10 plan to develop six juice based products, product prototypes: **clear juices and juices with pulp (incl. smoothies), using local raw material, such as American cranberry, sea buckthorn, and other raw material of other fruit and berries with high nutritional value.**
- PP7 will develop new juice (NFC) products, while at PP10 **at least two new clear juice products for children will be developed.** The companies plan to develop juice mixes without sweeteners for market research during the Project, thereby demonstrating a new type of healthy produce.
- 2) PP1 together with PP10 will develop **at least two new product prototypes on the basis of juice press cake with a high amount of dietary fibre.**

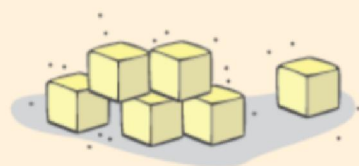
Results

- an informative booklet on sugar and healthy products (PP1);
- an informative booklet on smoothie (PP3);
- leaflets for juice mix preparation without added sugar (PP1, PP10);
- leaflet on fresh apple juices (NFC) (PP7).



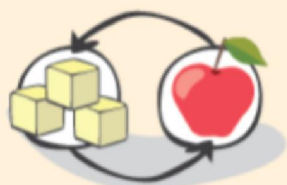
All material translated into at least 4 languages and freely available on the websites of scientific institutions

Healthy products for kids with reduced sugar content



Sugar

Kids eat more sugar than they need!



Kids take most of the sugar with a variety of snacks and sweetened drinks.

We can change this choice with a healthy product offer!

A lot of sugar kids take with:



Sweetened, fizzy drinks
and juice drinks



Buns, cakes,
pastries and
biscuits



Sweetened breakfast
cereals and yoghurts



Sweets, chocolate
and ice cream



Can a large amount of sugar affect our kids?

Too much sugar consumption often means we eat too many calories. If we don't use them, our body will store excess calories as fat.

This can lead to weight gain and serious diseases such as type 2 diabetes, with which people get younger than ever, as well as heart disease and cancer. Children who regularly consume sugar have a higher risk of getting sick, especially if the food they eat is sticky or they nibble between meals.

Healthy products for kids with reduced sugar content



InnoFruit



Projekta "InnoFruit" mērķa ir veicināt
inovāciju, kas veicina augu izcelsmes
augu izcelsmes produktu ražošanu
reģionālās līmenī.

How much sugar kids need?

The World Health Organization's
recommendation is -
no more than 5% of the total amount
of energy intake!



4-6 years **19 grams**



5-11 years **24 grams**



11-18 years **30 grams**

What do we need to know about sugar?



Added sugar

It is the sugar that is added during the production of the products to make them tastier. It does not just mean the sugar you add to your tea - it also includes honey and various syrups.



Sugar in fruits, berries and vegetables

Fruits, berries and vegetables contain mainly fructose and glucose, as well as healthy nutrients such as fibre.



The added sugar and sugar obtained naturally from fruits and vegetables are completely different substances taking into account their effect on the organism. Our liver recycles natural sugar and added sugar in various ways, as herbal foods still contain vitamins and microelements without sugar. Refined sugar, meanwhile, loses valuable substances during the processing, so it can only provide the body with calories.

Jam

with reduced calorie



To reduce the amount of added sugar the fruit and berry cultivars with the highest soluble sugar content (at least 12-14 Brix%) are selected for the preparation of jams. Other fruits and berries can also be added to diversify the flavour and increase the nutritional value.

Name of the ingredients

Apple puree	75%
Black currant, raspberries, plums or other fruits	15%
Sugar	10%



Preparation

- The apples are washed, cut and cooked in a pot with small amount of water until they are soft.
- Pass the apple mass through the sieve. Apple puree can be stored in the freezer at -18 ° C for up to one year.
- Weigh the ingredients according to the recipe to prepare the jam.
- In accordance with the recipe, black currant or raspberry berries (fresh or thawed after freezing), plums or other raw materials are added to apple puree.
- Add sugar and boil for ~ 15 minutes then fill in jars. Cool and store in the refrigerator for up to 3 months.
- For longer storage, taking into account that the jam contains reduced soluble solids content, sterilization by autoclaving is recommended for quality assurance.

Apple cultivars (grown in Latvia) suitable for the preparation of low-calorie jams:



CUKURINŠ; KONFETNOJE;
KOVALENKOVSKOJE; TIINA;
SALTANAT; AUKSIS; STARS;
SĪPOLINŠ; SPARTANS; IEDZĒNU.

Healthy fruit and berry snacks

The fruit and berry snacks are made from dried, powdered press cake after the juice extracting. They contain a large amount of fibre, which is an important part of our diet.

Name of the ingredients

Raspberry powder	31,2%
Black currant powder	20,6%
Apple powder	11,0%
Cranberry powder	7,2%
Honey	30,0%

Raw materials

for fruit ball coating:

dried pumpkins, carrots, apples, pears, sea buckthorn, cranberries, lingonberries, herbs, etc.



Preparation of powdered press cake:

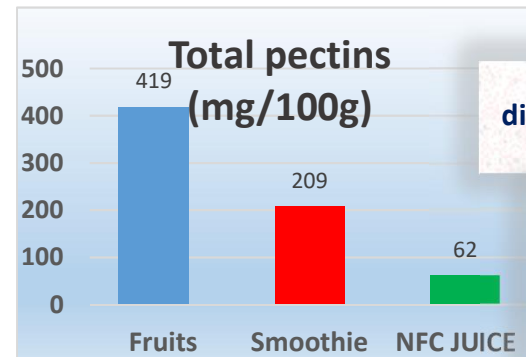
- Dry the press cake at approximately + 50 ° C until it is dry and easy to pulverise.
- Grind the press cake in a coffee grinder, put in a hermetically sealed container (for example, in a jar with lid) for longer storage.
- The recommended shelf life for ground press cake powder in a dark place is ~ 3-6 months (no longer recommended, because the omega 3 and omega 6 fatty acids in the seed will oxidize in the presence of oxygen).

Product preparation

- Measure out the required ingredients according to the desired amount of product.
- Mix the fruit and berry powders, add the honey and mix all again intensely and evenly.
- Formed the balls from the prepared mass (recommended weight 8-10g).
- Cover the fruit-berry balls with fruit, berry, vegetable crumbs or powders.
- Place to dry.
- The prepared fruit-berry balls are packed in closed bags or cartons.
- Recommended storage time ~ 3 months.

Smoothie – a product of unlimited potential

- tasty
- fruity
- healthy
- natural



Both juice and puree can be directly produced or reconstituted from concentrates

Smoothies characterized by substantial thickness (viscosity), due to the natural content of biological polymers in the raw material (pectins, hydrocolloids).

Because of the bioactive component contents, storage in cool shelves necessary !

Smoothie – a product of unlimited potential

Recepies reccomended by Research Institute of Horticulture



Apple juice 80%
Sea buckthorn juice 15%
Banan puree 5%



InHort
INSTYTUT OGRODNICTWA

Apple puree 40%
Red fleshed apple juice
20%

Because of the bioactive component contents, storage in cool shelves necessary !

Smūtijs - produkts ar neierobežotu potenciālu

- garšīgs
- augļiem bagāts
- veselīgs
- dabīgs



Sajaukšana

Homogenizēšana

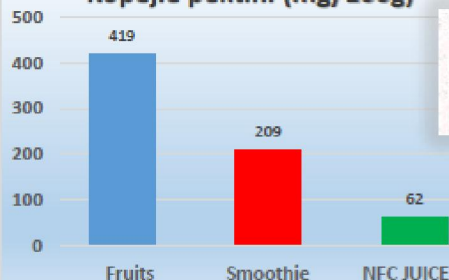
Mikronizācija

Deaerācija

Pildīšana

Pasterizēšana

Kopējie pektīni (mg/100g)



Sulu un biezeni var ražot tieši no
augļiem, vai to iegūšanā izmantot
koncentrātus

Pateicoties dabīgu bioloģisko
polimēru saturam izejvielā (pektīni,
hidrokolīdi), smūtijiem raksturīga
bieza (viskoza) konsistence.

Bioloģiski aktīvo komponentu satura dēļ nepieciešama uzglabāšana vēsumā!

Smūtijs - produkts ar neierobežotu potenciālu

Receptes iesaka Dārzkopības pētnieciskais institūts Polijā



Ābolu biezenis 80%
Melleņu sula 20%
Mežrozīšu sula 5%

Ābolu biezenis 80%
Mežrozīšu sula 20%
β - karotīns

Ābolu sula 80%
Smiltsērķšķu sula 15%
Banānu biezenis 5%



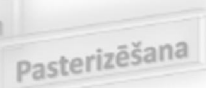
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Ābolu biezenis 40%
Ābolu sula no augļiem ar
sarkanu mīkstumumu 20%

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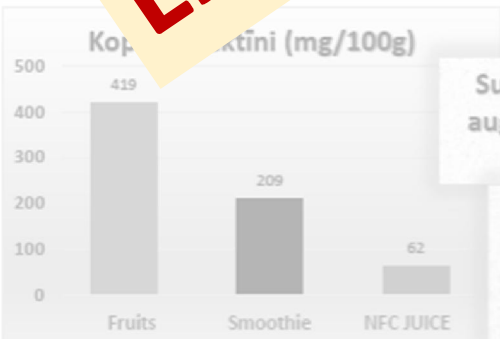


Sajaukšana

Deaerācija

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80%
20%
5%

Ābolu bieze
Mežrozī

Ābolu
Smūtijs



Lietuvių kalba

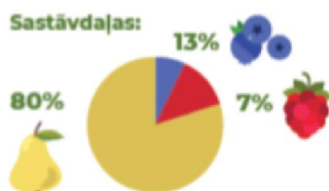


InHort
INSTYTUT OGRÓDNICTWA

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Bioloģiski aktīvo komponentu satura dēļ nepieciešama uzglabāšana vēsumā!

BUMBIERU – AVEŅU – MELLEŅU SULA



- Sulas pagatavošanai izvēlas nepārgatavojušos bumbierus ar iespējami augstu šķīstošo cukuru saturu (12.4 – 14.7 °Brix).
- Bumbierus nomazgā, notecina, ievieto saldētavā -18 °C temperatūrā. Uzglabāšanas termiņš - līdz vienam gadam.
- Aveņu ogas izvēlas ar iespējami augstu šķīstošās sausas saturu (11.7 – 12.6 °Brix). Sulai var izmantot gan meža mellenes, gan krūmmellenes. Ogas kastēs novieto saldētavā, uzglabā sabērtas maisos -18 °C temperatūrā. Uzglabāšanas termiņš - līdz vienam gadam.
- 12 - 24 stundas pirms sulas spiešanas bumbierus, avenes un mellenes atved no saldētavas un atkausē.
- Atkausētos bumbierus un mellenes liek sulas spiedē un izspiež.
- Atkausētās avenes uzber uz sietiem un notecina dzidro sulas daļu.
- Atbilstoši receptūrai bumbieru sulai pievieno aveņu un melleņu sulu, pasterizē un pilda pudelēs.

Sulas pagatavošanai piemērotākās šķirnes:



bumbieru:
 'BELORUSSKAJA POZDŅAJA';
 'MRAMORNAJA'; 'KURZEMES
 SVIESTA'; 'MILJEVSKAJA
 RAŅŅAJA'.



aveņu:
 'NORNA'; 'INA'; 'OTTAWA';
 'LUBETOVSKAJA'; 'GLEN DOLL'.

- Pear, raspberry and blueberry juice
- Pear and blueberry juice
- Pear and cherry juice
- Pear, cranberry and cherry juice
- Apple and sea buckthorn juice



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