

Palm oil from Mango kernels



Crop

Mango

Mangifera indica

Croppart

Seed

Fruit

Application area

Materials

Fine chemicals

Status

Research stage

Public availability

Non-public

Relevant plant compounds

Fruit

Seed

Description

In the Netherlands, many tens of tons of mangoes are thrown away every year. And that is not even counting the residual flows that remain after processing mangoes. Three entrepreneurs are joining forces in a BlueCity chain project to convert the pits of these mangoes into a circular product: Yespers, Kusala and Bio-aNAlytix van Biezen. And guess what? Mango butter made from mango kernels is a good substitute for palm oil, a product that is widely used in cosmetic products. Palm oil is linked to major environmental problems, such as deforestation, pollution and social problems. A sustainable alternative is therefore desperately needed. The consortium aims to extract mango butter from the kernel by the end of 2023 to make soaps and other skin care products.

Circular substitute for palm oil

Palm oil is used in a variety of products, from cosmetics to food. Large areas of rainforest are cut down for the construction of palm plantations. This leads to all kinds of problems: biodiversity is decreasing, endangered species such as orangutans are losing their habitat, deforestation leads to more CO2 emissions and plantations and pesticides cause water pollution, just to name a few. All this in turn leads to social problems, because the habitat of the local population is seriously affected. A replacement for palm oil is therefore urgently needed.

[Yespers](#), [Kusala](#), [Bio-aNAlytix van Biezen](#) and [BlueCity](#) think they have found this solution for the use of palm oil in cosmetics, in butter made from mango kernels.

Moreover, this can be produced in a circular manner: mangoes are not only a major waste stream in the Netherlands, but worldwide. The innovation of this chain project can therefore also solve and effectively deploy a large international waste stream. This is essential: the linear economy has had its day, let the planet know on all sides. To move towards a circular economy, we will have to use raw materials much more intelligently. The consortium is motivated to convert the kernels that are now burned or rotting by the side of the road into fats, among other things, and thus contribute to reducing the global use of palm oil in cosmetics.

The pioneers

The consortium in this chain project consists of three entrepreneurs from the food industry, biotechnology and cosmetics industry.

[Stefan Baecke](#) has been working with mangoes for years. His company Yespers is a circular company from The Hague that makes delicious mango spread from mangoes that would otherwise be thrown away. His team has already conducted various types of research into valorisation of the kernels.

[Nick van Biezen](#) is a fermentation expert. His company Bio-aNAlytix van Biezen is located in BlueCity Lab. He hopes to come up with a biological way of valorising the seeds, not through heavy chemistry, but through the use of fungi and enzymes.

[Karin Berkhoudt](#) is the founder of Kusala. Her company has launched a series of Circular Soap Against Waste that is produced as much as possible with residual flows, such as residual olive oil, oil from coffee grounds, oil from rejected avocados and rainwater. In her soap she processes mango butter that currently comes from the Dominican Republic. In this project she hopes to be able to replace that ingredient with local circular mango butter from the kernels that are now burned. This chain project, like the other [BlueCity chain projects](#), is supported by [RVO](#) (Netherlands Enterprise Agency).

Want to know more?

Follow the project via the social media of the companies and of course via BlueCity itself. For more information about the chain projects, please contact BlueCity via storytelling@bluecity.nl. There is a major challenge to install the circular economy in the Netherlands and we can only do that by getting started and working together smartly. Would you like to know more about circular chains or start one yourself? Feel free to visit BlueCity during [one of our programs](#).

Examples of end products



Mango butter for cosmetics


Mango butter as a good substitute for palm oil, a product that is widely used in cosmetic products.



Mango kernel soap

Circular Soap made from local circular mango butter from the kernels that are now burned.

Pros and cons

 Total use of Mango fruit

Resources

<https://www.bluecity.nl/blog/ondernemers-onderzoeken-mangopitten-als-vervanger-palmolie/> Initiative website