



Chocolate made from oats instead of cocoa

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The start-up "Qoa" wants to produce a cocoa-free chocolate. The company uses oat husks and other by-products from grain production as an alternative, regional raw material.

A chocolate that tastes like chocolate but contains no cocoa? That's what the team at Qoa, a Munich-based biotech company, is working on. According to the founders and siblings Dr. Sara and Dr. Maximilian Marquart, they want to produce the world's first cocoa-free chocolate and thus curb the amount of land needed for cocoa cultivation.

To put it simply, roasted oat hulls provide the chocolatey taste. This by-product of the agricultural and food industry, which is available in large quantities and is left over from the production of breakfast cereals or oat milk, serves as an alternative raw material to cocoa. "The taste known as cocoa and chocolate comes mainly from the production process and fermentation rather than from the cocoa itself," say the founders.

Making targeted use of by-products

For the taste, the Marquart siblings use, among other things, the process of fermentation. They use microorganisms such as yeasts to change the taste of the ingredients. The process is comparable to that of brewing beer. After fermentation, the oat hulls are roasted.

"Grain is well suited as a raw material because it contains many nutrients for the lactic acid bacteria during fermentation, can be grown locally, and contains fewer bitter substances than cocoa," says Sara Marquart. The company says it is building supply chains with suppliers from Bavaria and Germany, as well as the rest of Europe. The aim is to source the raw materials from as close a catchment area as possible. To this end, the team is currently looking for cooperation partners from agriculture and the food industry. "At the moment, we are also developing a platform for trading by-products such as oilseeds, nuts, and residual products to facilitate access."

Product development is not a foregone conclusion

In conventional chocolate production, cocoa beans are fermented on the plantations, dried, and then roasted at the processing site. Each of these steps leads to the formation of different flavours. The company tries to replicate these production steps. However, they won't reveal all the production details. During product development, Qoa cooperated with sensory experts from the Fraunhofer Institute for Process Engineering, who continuously tested the chocolate



substitute. The initial feedback on their test product was not exactly exhilarating, they admit. "On a scale of 1 to 10, they scored it a 4.6." At this point, however, the taste of their chocolate substitute is indistinguishable from the original chocolate.

Industrial customers as a target group

The siblings see their clientele being in the B2B sector and want to replace chocolate in industrial products such as biscuits and bars - in other words, where you can't really taste cocoa at all, such as in a chocolate nut bar or in biscuits. "Actually, it is a waste of resources to use real cocoa here. We want to offer a solution to that and take the pressure off the supply chain." Specifically, they are targeting the food industry, bakeries, and coffee shops, which will then use the chocolate substitute in their own products.

Founded in early 2021, Sara Marquart and her brother have already raised over €5 million for their business model. Her previous work for a coffee substitute manufacturer helped, says the founder. "I knew how things work with venture capital in the US." Y Combinator, which has funded companies like Airbnb and is one of the most important international start-up accelerators in the US, has included Qoa in its portfolio.