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Fries Synthesis: A new Technical Approach to Continuous Quality

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Perfect Quality – Perfect Enjoyment

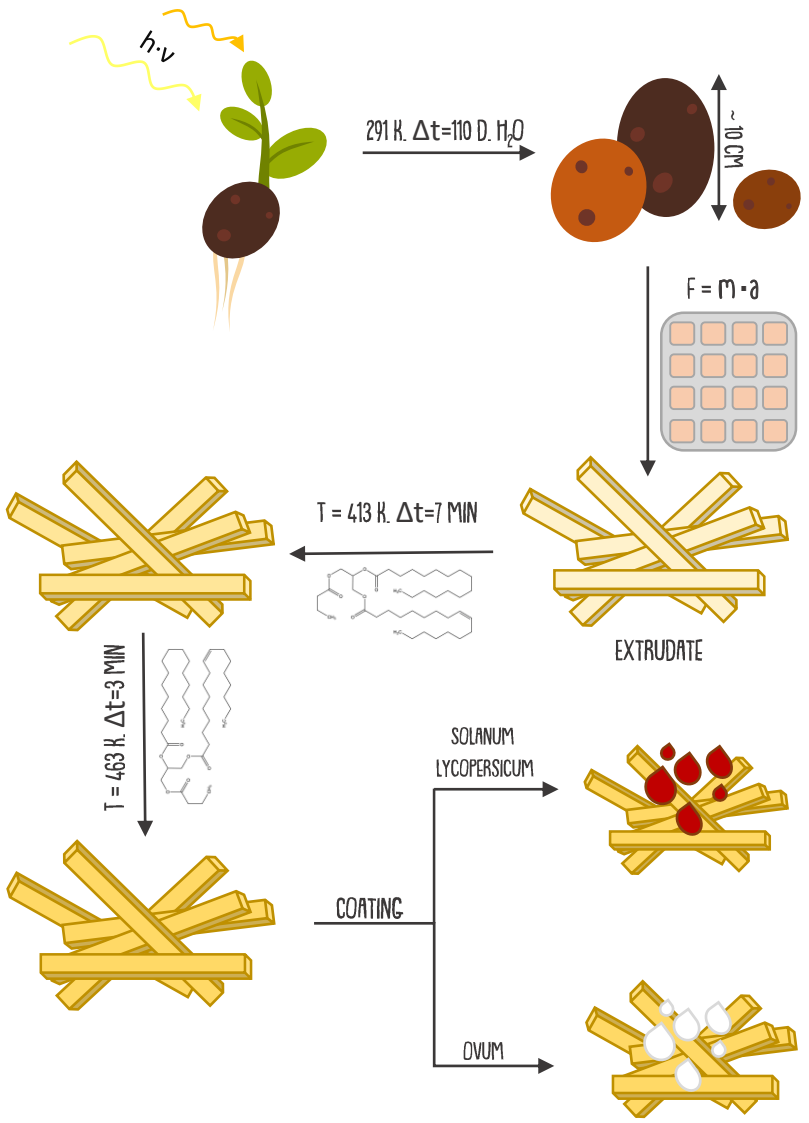
Within the last 100 years, the potato became more and more popular in nearly every culture all over the world. At the latest with the beginning of the fast food revolution by McDonald's, the potato became an elementary part of the gastronomy and thus, as well an indispensable part of the kitchen. The potato finds a variety of applications, such as the use of starch suppliers, animal feed and especially as a food product. However, since the invention of the deep-fired potato sticks which we all know as fries many companies and producer suffer from uncontrollable size within the production. To overcome this problem our group of very ambitious young scientist leaded by T. Fritta found a new approach to produce even-shaped fries extrudates [1]. Because it is not all aboute the taste of a fresh deep-fried portion of fries but also about the visual impression that leads to a perfect enjoyment.

We found out that the starting material has a highly impact to the quality of the final product. More precisely, the choice of the potato sort and the absorbed energy amount of the light by time. It is imperative to irradiate the potatoes with an exact and continuous amount of energy of 3584 kJ /day.
Furthermore, long-term studies showed that an excessive proportion of blue light led to an increase of the production of bitter substances in the potato. These bitter substances contribute to the reduction of starch content in the potato. However, as is known, the starch content is existential for potato firmness and taste, and ultimately for the production of robust frits.

In addition to the use of a light filter, an extrusion process was developed to divide the raw potatoes into uniform pens. Surprisingly, this was possible without major problems. Subsequently, a precise frying process was developed to subject the potato sticks to a continuous triglyceride contact at a defined temperature [2]. The subsequent work-up of the extrudates by means of different coatings was carried out to address a large number of consumers.

Further investigations regarding the force effects during the extrusion process as well as the triglyceride contact time have to be carried out even more profoundly [3]. Only when these secrets are revealed high quality products can be introduced to the worldwide market.

Synthesis Strategy for the Potato Extrudates: From Plant to Product



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