

COMBINING SWISS QUALITY AND ORGANIC TAGS TO IMPROVE CHOCOLATE CONFECTIONERY

Nutriswiss AG, a Swiss company that specialises in the sourcing and processing of vegetable oils and fats, has recently investigated some novel tools and methods that help to replace palm fat with organic-certified vegetable alternatives such as shea or cocoa butter



TAG-based glazes show good drying/tightening behaviour and don't smear on contact.

Organic-certified structured triglycerides (TAGs), for example, provide a broad range of opportunities when it comes to the development and formulation of confectionery, fillings, and chocolate-hazelnut spreads. This is particularly appealing to the growing number of consumers who no longer want to see palm oil on the ingredient list but do want to purchase a product with an organic seal on the label.

Until now, retail choice has been limited. This is mainly because substitutes could only be produced using non-organic processes and, perhaps, manufacturers being unwilling to forego the technological advantages of extant production lines. To overcome these issues, edible oil specialist Nutriswiss has used an innovative process to create palm oil-free solutions that meet the highest

quality standards.

The search for organic-certified alternatives


Palm fat, unsurprisingly, possesses the perfect technological attributes for use in chocolate products. When replaced by other vegetable oils or fats, characteristics such as flavour, consistency and stability may all be adversely affected. This is why the Nutriswiss team creates customised recipes that optimise the final product and take the manufacturing process into account.

To cite an example, one way to ensure the ideal texture of conventional products is to harden (hydrogenate) the oil ingredients. Yet, this is not permitted in the organic segment. Nutriswiss, however, has found a solution. Frank Möllering, Head of Research and Development,

explains: "With the help of various steps within a process sequence, we have managed to restructure the triglycerides. This results in different physical properties that enhance the crystallisation behaviour and ensure the desired soft and creamy mouthfeel." The matrix formed by the recombination of the fatty acids binds the oils, resulting in stable sensory properties with an organoleptically appealing melting behaviour.

Fighting fat bloom

Chocolate fillings and spreads derive their creaminess and the desired melting texture from their fat components. As Möllering elaborates: "The composition is crucial here. The product should melt gently in the mouth and not be waxy or too firm." To fulfil these requirements, he and his team develop bespoke fat components



Structured triglycerides (TAGs) provide the flexibility and required technological properties to replace palm oil in confectionery and chocolate products.

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with or without palm oil as required. In each case, the high-quality raw materials are individually selected and modified using state-of-the-art processes.

The fat mixture must form a stable crystal lattice in which the liquid components are integrated. Otherwise, the oil might migrate into the chocolate coating and form fat bloom in, for example, confectionery products, filled chocolate bars and bars. Nut nougat or hazelnut creams can even suffer from the formation of an oily surface film. Here, structured TAGs offer significant benefits; they can be used in glaze fats and couvertures for fast crystallisation behaviour even without conching (tempering).

Likewise, new structured TAGs can be used in filling fats for bars and chocolates that subsequently deliver the required melt-in-the-mouth

behaviour. Nuts, nut oils and/or milk fat can be incorporated, and, despite their delicate melting behaviour, the resulting fat creations have good temperature stability and prevent migration and fat bloom. That's not all, for creamy (chocolate) fillings (croissants), for spreads and to garnish biscuits, variants based on cocoa or shea butter with sunflower oil, for example, can also be prepared without tempering. Finally, in bakery applications, chocolate-covered biscuits can be made with a TAG-based glaze that shows good drying/tightening behaviour and doesn't smear on contact.

No to palm fat, yes to organic alternatives

Despite its recognised RSPO certification, palm fat does not have a good reputation among consumers. As a result, many manufacturers of

chocolate products are looking for alternative formulations. Although some organic-certified solutions are available in the form of fractionated fats, pure substitutions generally involve a loss of flavour and there are issues with eutectic behaviour (especially with cocoa butter and coconut). There is light at the end of the tunnel, though, and flexibility to be gained in the organic sector. The days of just milk fat, pure coconut fat or pure cocoa butter are numbered! Nutriswiss is setting new standards in this area: for the Swiss company, there is no alternative to the perfect sensory properties of chocolate products, which is why they individually select high-quality raw materials and modify them using state-of-the-art processes.

For more information, visit www.nutriswiss.ch