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# Beyond the Bar: The Future of Chocolate Innovation This World Chocolate Day

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**Morten Daugaard Andersen, Principal Research Scientist, Chocolate Confectionery Fats at AAK**



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As cocoa prices remain volatile and manufacturers face mounting pressure to balance cost, quality, and sustainability, the role of cocoa butter equivalents (CBEs) is rapidly evolving beyond simple cost optimisation. Today's confectionery producers are seeking high-performance fat solutions that deliver processing efficiency, consistent product quality, and premium sensory experiences while supporting more resilient supply chains.

In this exclusive interview with NUFFOODS Spectrum, Morten Daugaard Andersen, Principal Research Scientist, Chocolate Confectionery Fats at AAK, discusses the market forces driving innovation in speciality chocolate fats and the development of ILLEXAO EN 10, a next-generation cocoa butter equivalent designed specifically for enrobed applications. He shares insights into how advanced CBEs are helping manufacturers overcome production challenges, enhance operational efficiency, maintain premium chocolate quality, and advance sustainability goals. Andersen also offers his perspective on the future of chocolate fats and the innovation trends set to shape the global confectionery industry.

**What market trends and industry challenges led AAK to develop ILLEXAO EN 10 specifically for enrobed applications?**

Chocolate manufacturers are operating in an increasingly complex environment, shaped by cocoa price volatility, supply uncertainty, and rising production costs. As a result, many are increasing the use of cocoa butter equivalents (CBEs) to gain formulation flexibility and cost stability.

At the same time, consumer preferences are evolving, with growing demand for more complex and indulgent formats, such as hybrid chocolate-bakery products, multi-layer applications, and enrobed snacks. These formats place even higher demands on processing performance and consistency, particularly in enrobing.

Enrobing is one of the most sensitive chocolate processes, where the fat phase plays a critical role. Higher CBE levels can lead to thicker flow, instability during processing, and buildup on equipment, ultimately impacting efficiency and product quality.

ILLEXAO EN 10 was developed in direct response to these combined trends, enabling manufacturers to increase CBE usage while maintaining process stability, product quality, and the flexibility required to support more complex product designs.

**As cocoa price volatility continues to impact manufacturers, how do you see cocoa butter equivalents evolving as a strategic solution for the confectionery industry?**

CBEs are increasingly moving from being a cost-management tool to a strategic formulation component.

As cocoa markets remain volatile, manufacturers are looking for solutions that offer both price resilience and supply security, without compromising product quality. This is driving demand for more advanced CBEs that go beyond basic substitution.

The next generation of CBEs -such as ILLEXAO EN 10- is designed to deliver cocoa butter-like functionality in real processing environments, enabling higher inclusion levels while maintaining performance and sensory integrity.

In this context, CBEs will continue to evolve toward high-performance, application-specific solutions that support both operational efficiency and product premiumization.

**What differentiates ILLEXAO EN 10 from conventional cocoa butter equivalents in terms of processing efficiency, flow stability, and product performance?**

The key differentiation of ILLEXAO EN 10 lies in its cocoa butter-like rheology and behaviour during processing, particularly in enrobing.

While conventional CBEs can negatively impact flow -leading to thicker masses and increased buildup- ILLEXAO EN 10 maintains a light, stable flow profile, even at higher inclusion levels.

This translates into:

ï?· More consistent flow through the enrobing curtain

ï?· Reduced buildup on equipment

ï?· More uniform coating weight

ï?· Stable performance during long production runs

At the product level, it also delivers high-quality appearance and consistent texture, supporting premium positioning.

**Could you elaborate on how ILLEXAO EN 10 helps manufacturers reduce operational challenges such as buildup, cleaning downtime, and energy consumption?**

Operational challenges in enrobing are often linked to instability in the fat system over time, particularly when using higher levels of CBE.

ILLEXAO EN 10 addresses this by maintaining stable flow properties after tempering, reducing the progressive increase in viscosity that typically leads to buildup.

As a result:

ï?· Less accumulation occurs on curtains and guides

ï?· Cleaning cycles are reduced

ï?· Line stoppages become less frequent

ï?· Less energy is required to maintain processing conditions

Overall, manufacturers benefit from smoother, more predictable operations and improved line efficiency.

**How does ILLEXAO EN 10 help brands maintain premium sensory experiencesâ??such as texture and flavourâ??while optimising costs?**

Even as manufacturers optimise formulations, consumers continue to expect indulgent chocolate experiences.

ILLEXAO EN 10 ensures that sensory quality remains uncompromised by closely aligning with cocoa butterâ??s crystallisation behaviour. This enables:

ï?· A clean, fast melt

ï?· Crisp snap

ï?· Smooth, non-waxy mouthfeel

ï?· Authentic flavor release

Importantly, these attributes remain stable even at higher CBE inclusion levels. This allows brands to balance cost optimisation with premium sensory performance, without compromising on consumer expectations.

**How does the smoother processing enabled by ILLEXAO EN 10 contribute to more sustainable confectionery production practices?**

Smoother processing has a direct impact on sustainability.

By reducing buildup and stabilising flow, ILLEXAO EN 10 helps:

ï?·Â Â Â Â Â Â Â Â Â Minimise cleaning frequency and associated waste

ï?· Reduce product losses and rework

ï?· Lower energy consumption through more efficient operations

ï?· Improve overall resource efficiency

In addition, enabling reduced dependency on cocoa supports more resilient and diversified sourcing strategies.

Together, these factors contribute to leaner, more resource-efficient production systems, aligned with sustainability goals.

**Which application categories or regional markets do you expect will see the strongest adoption of high-performance cocoa butter equivalents in the coming years?**

Adoption is expected to be particularly strong in enrobed applications, where processing efficiency and consistency are critical, such as biscuits, wafers, bars, and snacks.

From a regional perspective, markets facing higher cost pressure and supply volatility, including Europe and other mature confectionery regions, are already accelerating the use of advanced CBEs.

At the same time, emerging markets are also showing growing interest, as manufacturers seek scalable solutions that combine cost efficiency with product quality.

**Looking ahead, what innovation trends do you foresee shaping the future of chocolate fats and speciality ingredient solutions globally?**

One of the key trends is the shift toward application-specific fat solutions, designed to solve real processing challenges rather than serving as generic replacements.

At the same time, manufacturers are increasingly looking for solutions that can deliver across multiple dimensions:

ï?· Performance and efficiency

ï?· Sensory quality

ï?· Cost and supply flexibility

ï?· Sustainability

This is driving innovation toward more integrated solutions, where formulation, process optimisation, and end-product quality are addressed together.

At AAK, this aligns with our approach of combining nature-based raw materials, deep scientific expertise, and close collaboration with customers to develop solutions that are both technically robust and commercially relevantâ??enabling our customers to deliver great experiences that people enjoy.

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