

A photograph of two men in a factory setting. The man on the right is wearing a blue polo shirt with the AAK logo and a blue hairnet, pouring a yellow liquid from a white bucket into a large stainless steel tank. The man on the left is wearing a white lab coat and a blue hairnet, looking on. The background shows industrial machinery and pipes.

Alberto Rosado
Global CIM Biscuits

Oil and fat solutions
for biscuits

AAK

AAK

Agenda



- 1 Vision, brand promise and foundation
- 2 History and geographical footprint
- 3 Customer Co-Development
- 4 AAK capabilities & solutions
- 5 The Innovation Story of Akobisc 2.0



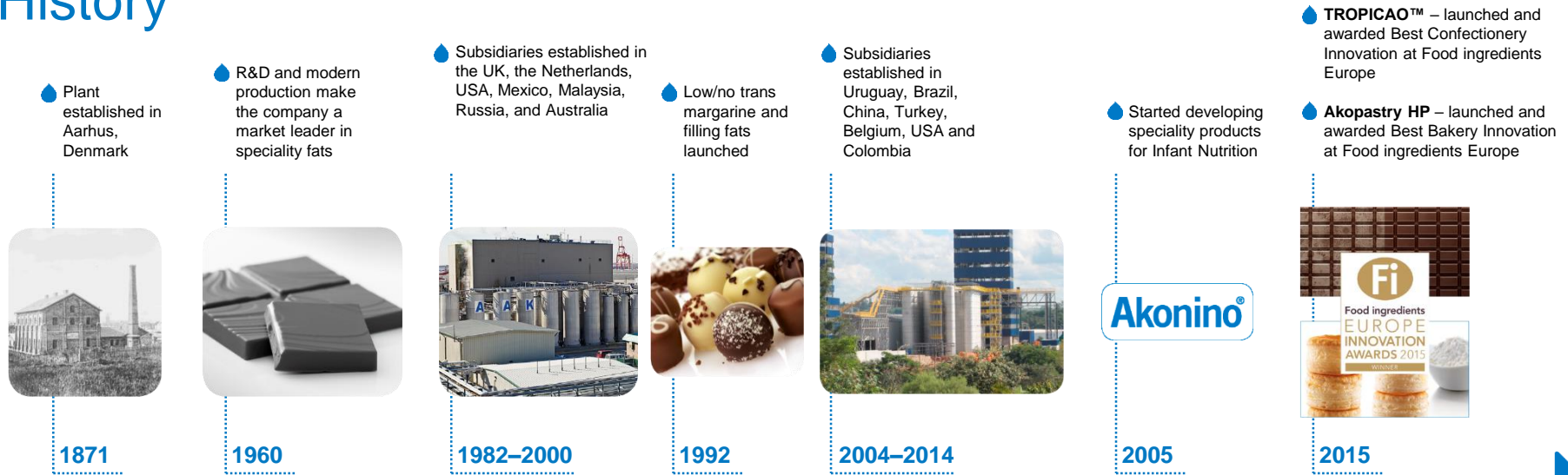
Vision

The **first choice** for value-adding vegetable oil solutions

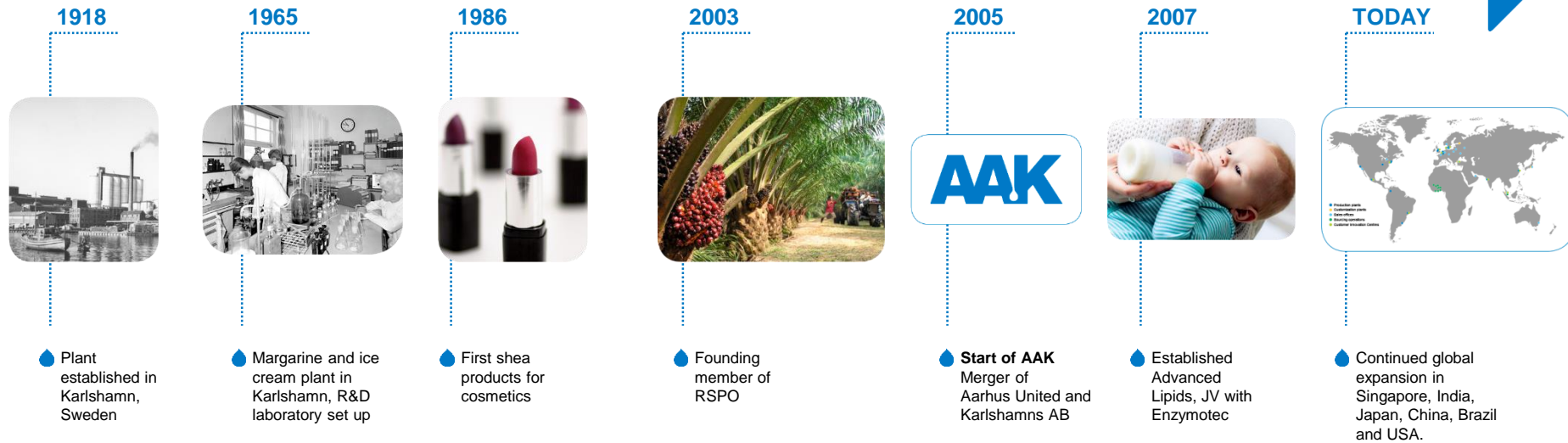
Brand promise

We achieve **lasting business value** together with our customers through **value-adding vegetable oil solutions**

History



CAPABILITIES BUILT OVER 140 YEARS



Global network of Customer Innovation Centers



Our customers' needs result in innovative AAK solutions

CCF



- ◆ Globalization
- ◆ Market differentiation
- ◆ Cost efficiency
- ◆ Product quality

CCF



- ◆ Health
- ◆ Market differentiation

Dairy



- ◆ Health
- ◆ Cost efficiency
- ◆ Market differentiation

Bakery



- ◆ Health
- ◆ Cost efficiency

Special Nutrition



- ◆ Natural
- ◆ Market differentiation

Special Nutrition



- ◆ Market differentiation
- ◆ Tailored nutrition

Customer Co-Development approach



Adopted based on customer needs

Functionality of fat in Biscuits

Physicochemical aspects

Stability during shelf life (recrystallisation)

Compatibility with coatings

Resistance to Hydrolysis

Resistance to oxidation

Constant quality & behavior

Texture-Structure

Source of energy

Performance

Crystallization

Heat transfer

Lubrication

Dough & product structuring

Shortening effect

Emulsification, stabilization & air inclusion

Shelf life increase

Convenience

Requirements

Organoleptic

Mouthfeel / Palate Cling

Aroma release & support

Dry / Fatty / Sticky

Buttertaste

Colour / Shiny / Dim

Continuous & Smooth

Plastic

Intrinsic

RSPO

E-free / natural

Low TFA / SAFA

High PUFA / Omega-3

Low 3-MCPDE / GE

Organic

Kosher / Halal

Advanced Butter Alternative Technology

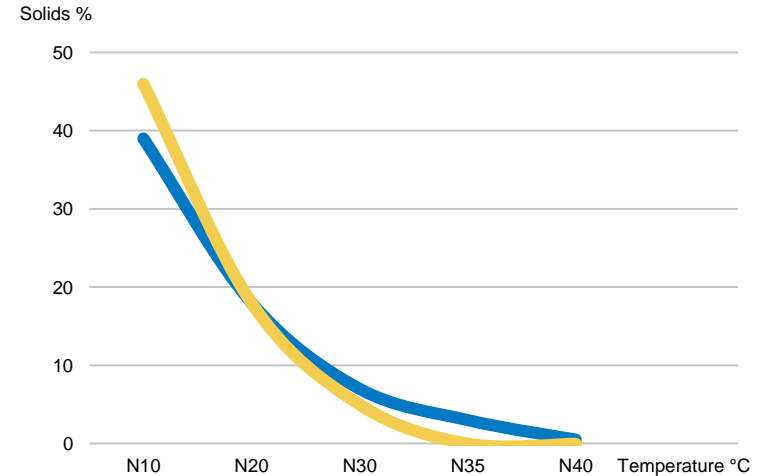
AAK understands the role butter plays in making the perfect biscuit, cookie or shortbread, and can work with you to achieve the taste, texture and snap you're looking for.

Cookie Dough

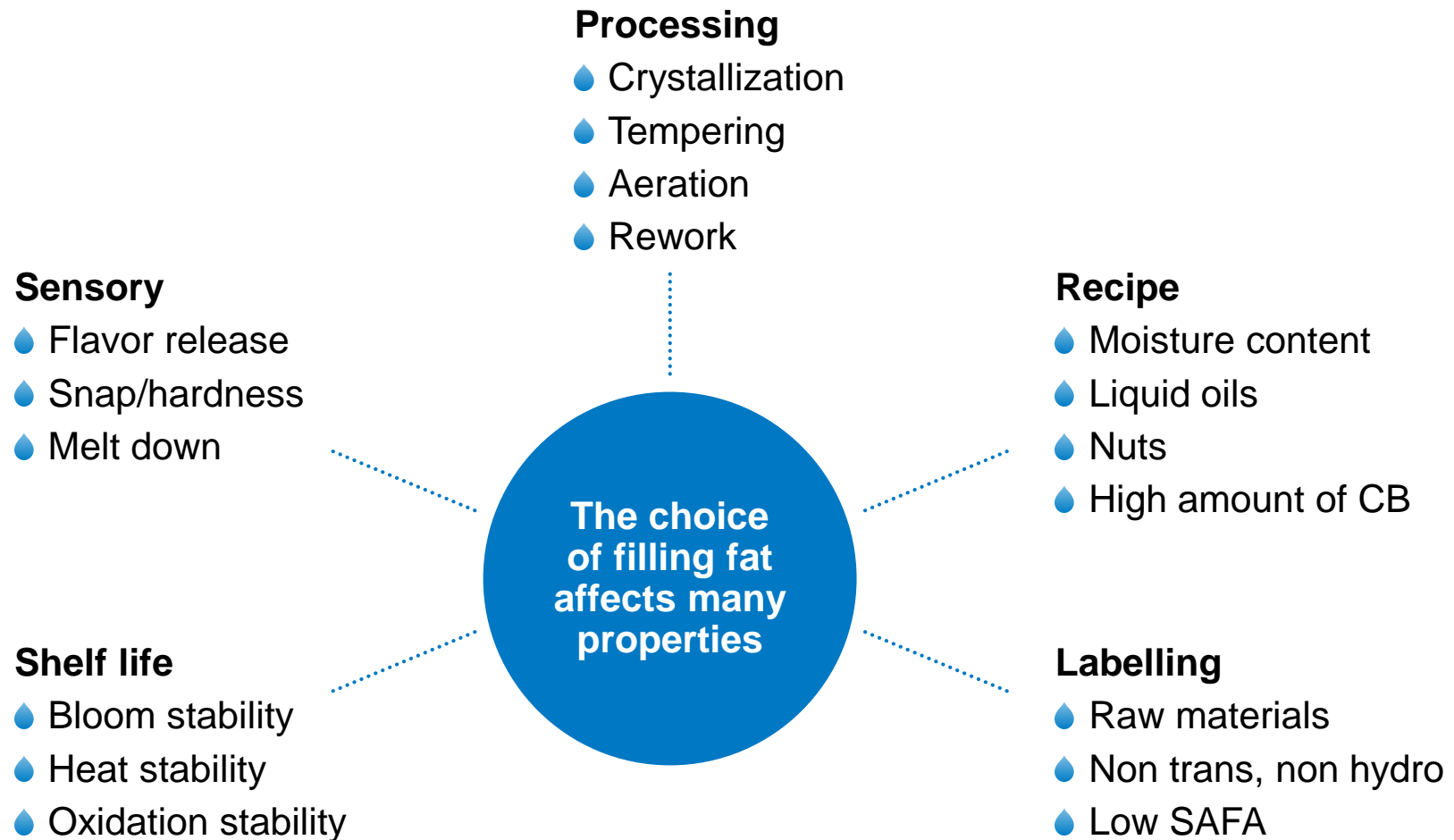
- ◆ Simplify production by switching to well plasticised, smooth vegetable fats which are easier to work than butter, or go pumpable for even easier handling
- ◆ We can even mimic the melt profile of butter

Cream Fillings

- ◆ Alternatives for biscuit fillings with excellent mouth feel are also a possibility, with your own customised flavour profile



Requirements of a filling



Bloom retarding fillings

Bloom caused by migration from filling fat

AAK solutions:

- ◆ Delays recrystallisation on surface
- ◆ Proper crystallization
- ◆ Tailored aeration properties
- ◆ Pleasant melting profile
- ◆ Tolerance to hazelnut oil



Bloom retarding solutions for cookies and biscuits

In dough:

- ◆ Preserves the chocolate nomination because there is no need to add anti-bloom fats to the chocolate coating
- ◆ With comparable melting curve and fatty acid profile to palm oil
- ◆ Low in 3-MCPD esters
- ◆ Non hydrogenated oils or fats

In chocolate coating:

- ◆ Creamy mouthfeel: It is possible to achieve a creamier sensation in a dark chocolate with a high content of cocoa.
- ◆ Low waxiness
- ◆ Maintain the experience by improving the snap which is a typical high quality chocolate characteristic



	Palm oil	In dough solution
Saturated fatty acid (%)	50	48
Mono-unsaturated (%)	40	44
Poly-unsaturated (%)	10	8

Indicative values

Release Agents

We have a range of Release Agents tailored to your needs

Rapeseed Oil	Palm Fractions	Lecithin	PGPR	Waxes	MCT	Anti-Oxidant	Water	Cereal	Unit/Slab/ Celebration Cakes	Swiss Rolls	Jaffa cakes,	Madeleines	Biscuits with inclusions & Cookies	Application Preference*			Shelf Life (days)
														Spray	Spin	Drip & brush	

- ◆ General purpose products range which can be applied by spinning disc or drip bar & brush, though it is most often sprayed.
- ◆ Agents that can lower the viscosity so it can be dripped onto a flat surface.
- ◆ Can be sprayed into soft cakes molds.
- ◆ Designed for biscuits and cookies with inclusions.
- ◆ Could contain Carnauba wax for extra release power.
- ◆ Containing palm fractions which are designed for use in warmer climates, where a higher melt point is needed.



Customer Co-Development approach



Adopted based on customer needs

The Innovation Story of Akobisc 2.0



Major market needs:

- ◆ Sustainability
- ◆ Low SAFA
- ◆ Non Hydro



Function of fat in cookies & biscuits:

- ◆ Shortening effect
- ◆ Aeration
- ◆ Dough quality (non oily)
- ◆ Flavor perception & color

= Akobisc 2.0

A liquid oil based solution for cookies

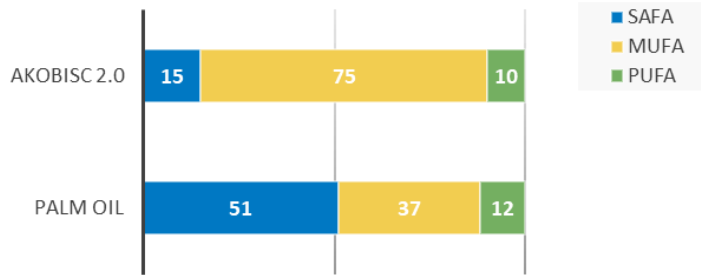
Through co-development, we deliver value adding solution

A biscuit fat solution, extremely **low in saturated fatty acids**, fully based on liquid oil and **free of tropical fats**.



Health

Low in SAFA, 3-MCPD; non-hydro

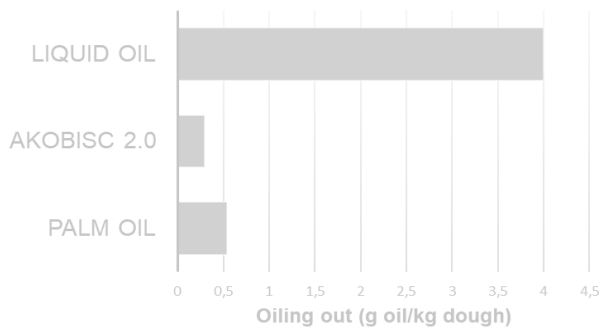


Resulting in a stable and structured biscuit dough with **no oiling out** and the **right amount of air inclusion**.



Functionality

Perfect dough quality
All type of doughs



Enabling a **simple production process** with **quick air uptake** and **shorter mixing times**.



Process Efficiency

Less breakage of inclusions
All-in-one mixing or 2 step mixing
Time saving

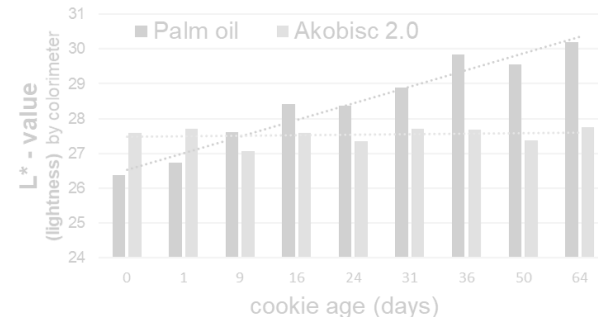


And... the final biscuit or cookie is of **perfect quality**.



Sensory

Perfect crunch, bite, snap
More complete inclusions
No discoloration of cookies over time, no fat bloom



Color follow up of cocoa cookies

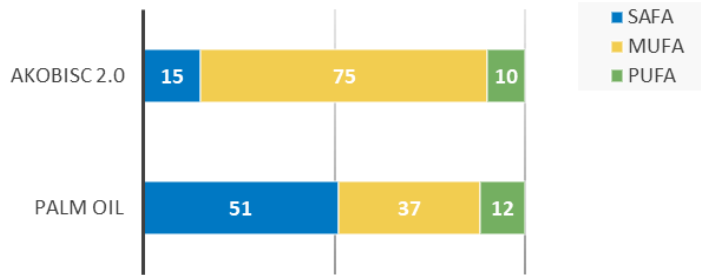
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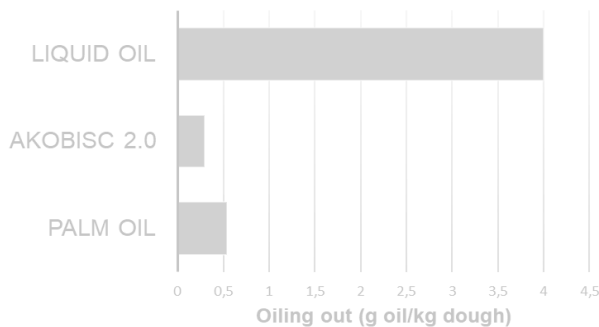


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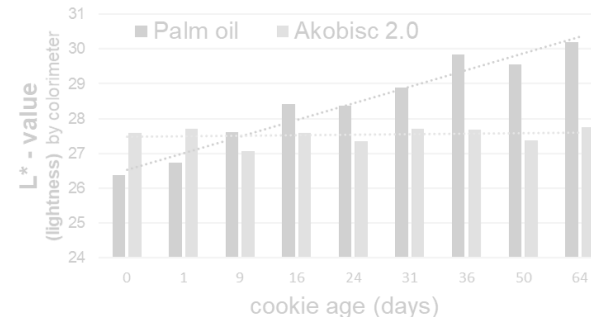


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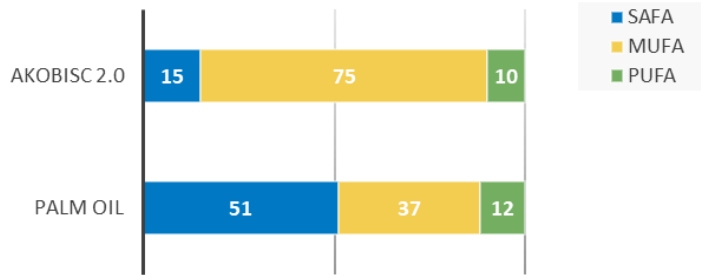
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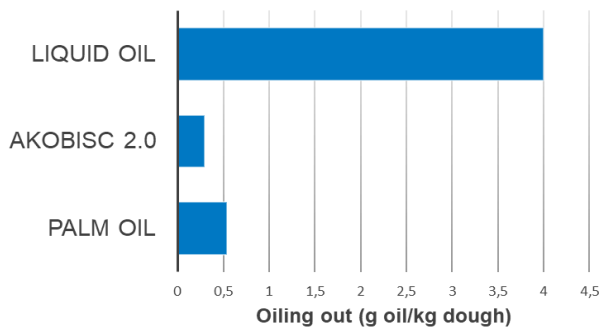


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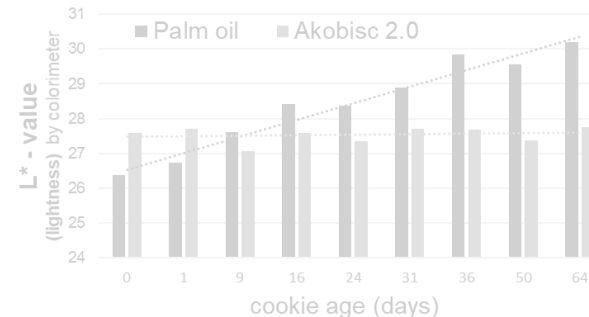


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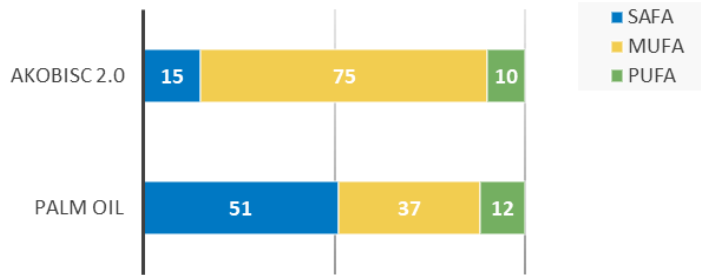
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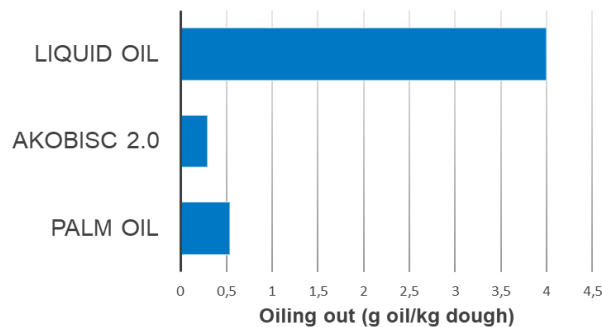


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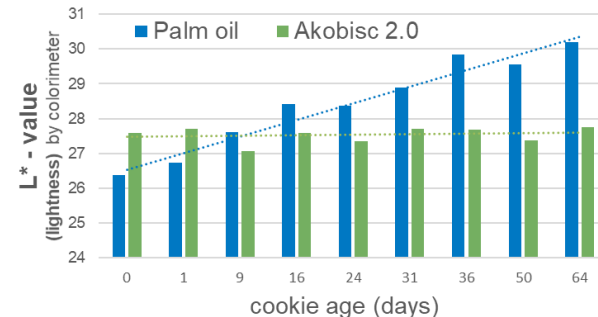


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Color follow up of cocoa cookies

How can we work with you?

◆ Alberto Rosado

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We are AAK – The Co-Development Company





Thank you!

www.aak.com

AAK