



Keep every  
*premium*  
promise



**Chocolate**  
Vegan

COBAO™ Pure  
for chocolate  
with a *naturally*  
longer shelf life



**AAK**



# *Ruined by bloom?* You need COBAO™ Pure

A new premium confectionery product is ready for launch, and expectations are high that it will hit the right chord among the growing numbers of indulgence-seeking consumers. With that naturally authentic, melt-in-the-mouth experience, what could possibly go wrong?

But it doesn't take long before the first complaints start trickling in. Because, by the time this luxury confectionery arrives in the shops, the grey, unappetizing dullness of bloom is already setting in.

Sound familiar? No surprise. Bloom is, after all, a critical challenge for manufacturers of chocolate confectionery.

## **That's where we come in.**

Our specialty cocoa butter COBAO™ Pure is the solution you need to give your chocolate innovations the extended shelf life they deserve all the way to the consumer – with no unwanted alterations to the label.

At AAK, we're dedicated to Making Better Happen™. The goal is always delighted, loyal consumers and, most importantly, the best possible reputation for your brand.



A glossy appearance is key to the **premium** chocolate **experience**. Early onset of bloom is a risk no manufacturer can afford.

# Pure bloom-free *performance* – no more, no less

COBAO™ Pure is our chocolate solution with a difference. Based on pure cocoa butter, it can extend the bloom-free shelf life of milk and dark chocolate tablets, filled products and coatings by up to 400%. Naturally compatible with all other types of cocoa butter, it matches the needs of the growing premium segment perfectly.

COBAO™ Pure is defined by EU legislation as cocoa butter.



## Label friendly

- Labelled as cocoa butter
- Free of E-numbers
- Suitable for vegans and consumers with milk allergies



## Longer bloom-free shelf life

- Highly bloom stable
- Less sensitive to temperature fluctuations during storage
- Enables distribution to new global markets
- Keeps chocolate looking glossy and appealing



## Premium sensory quality

- No softening effect
- Unchanged taste and texture

# Celebrity confectionery that *keeps* on shining

No manufacturer can afford the loss of sales and brand reputation that are likely to result from chocolate bloom. For consumers, a glossy appearance is a big part of the premium experience.

One of the main issues can be summed up in just two words: storage temperature. As soon as confectionery has left the factory, the storage temperature may fluctuate wildly. During transport, at the store and in consumer households, the risk of rapid bloom development is high.

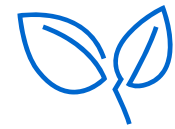
## Built-in bloom protection

This is why you need a bloom management solution that you can build into your chocolate recipes to make them less vulnerable to swinging temperatures.

Cocoa butter equivalents, emulsifiers and milk fat are among the most-used solutions. But all have the same drawbacks:

- They must be declared on product labels
- They may not comply with regulations that limit the use of cocoa butter alternatives in chocolate recipes

Milk fat also has a softening effect – noticeable even when used in very small amounts in dark chocolate. And it's not suitable for consumers with milk allergies or the growing vegan market either.



## ***Plant-based*** and lactose-free

As consumers think more and more about health, food intolerances and allergies are increasingly top of mind. That's why many consumers today buy plant-based and lactose-free alternatives to dairy as a lifestyle choice.

COBAO™ Pure matches these needs perfectly. In dark chocolate confectionery without milk fat, it provides all the premium indulgence that consumers seek with none of the dairy-derived allergens they want to avoid.



The trend towards ***plant-based eating*** has gained ***popularity*** in recent years, with consumers across many markets looking to ***reduce their intake*** of animal ingredients.

Source: Mintel

COBAO™ Pure makes no difference to your label. Your final product is free of additional allergens and taste and texture are unchanged.



## No change in the ***label***

Of course, it's often possible to resort to emulsifiers and milk fat to deal with the issue of chocolate bloom. But it does mean you'll have to declare them on your product label.

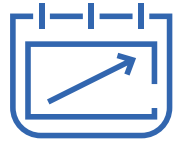


**69%** of consumers say ***product labels*** have an impact on their purchasing behavior.

Source: C+R research, your guide to the clean-label revolution

Today, consumers increasingly expect to see fewer ingredients in the products they buy, and they read product labels carefully. COBAO™ Pure is a label-neutral solution that meets these expectations.





# More *stability* when temperatures start swinging

A rise in temperature of just a few degrees is all it takes to trigger the onset of bloom in both dark and milk chocolate. If the temperature fluctuates up and down, the process will go even faster.

## Bloom goes nuts

Particularly manufacturers of chocolate tablets containing whole or broken nuts, whether hazelnuts, almonds, or peanuts, experience bloom as their worst enemy.

## Our tests with COBAO™ Pure

To investigate the bloom-retarding potential of COBAO™ Pure, we tested two dark chocolate recipes, both containing 10% hazelnuts and stored at 23°C for five weeks. Take a look at figure 1, and you'll see that the recipe with 10% COBAO™ Pure shows considerably less sign of bloom than the standard dark chocolate reference.

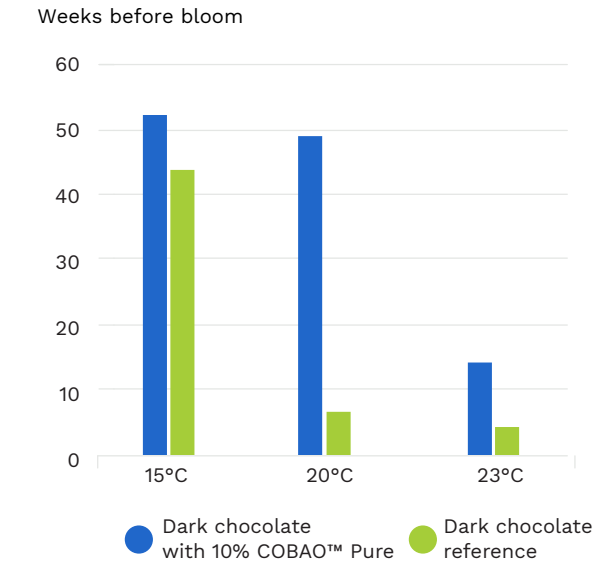
We measured the bloom stability of the tablets at three isotherm temperatures in controlled cabinets. Figure 2 is a clear illustration of the impact of higher temperature on bloom development.

Figure 1 Dark chocolate tablets, with nuts, stored at 23°C for ten weeks



This leaves little doubt that 10% COBAO™ Pure makes dark chocolate less sensitive to high storage temperatures and, consequently, better able to resist bloom.

Figure 2 Time to bloom appearance on dark chocolate tablets stored at different temperatures



## Following formulations have been used for tests

### Dark chocolate reference:

42% cocoa mass, 10% cocoa butter, 47.6% sugar, 0.4% lecithin, total fat: 33.5%.

### Dark chocolate with 10% COBAO™ Pure:

42% cocoa mass, 10% COBAO™ Pure, 47.6% sugar, 0.4% lecithin, total fat: 33.5%.

### Dark chocolate with 2% milk fat:

42% cocoa mass, 8% cocoa butter, 2% milk fat, 47.6% sugar, 0.4% lecithin, total fat: 33.5%

### Milk chocolate with 10% COBAO™ Pure:

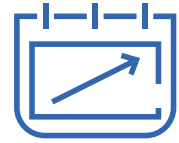
39.6% sugar, 20% whole milk powder, 9% cocoa butter, 10% COBAO™ Pure, 16% cocoa mass, 5% skimmed milk powder, 0.4% lecithin, total fat 33.2%.

### Milk chocolate:

39.6% sugar, 20% whole milk powder, 19% cocoa butter, 16% cocoa mass, 5% skimmed milk powder, 0.4% lecithin, total fat: 33.2%

### Hazelnut filling:

38% sugar, 30% fat (CHOCOFILL™ NH 50), 17% hazelnut paste, 6% whole milk powder, 5% skimmed milk powder, 4% cocoa powder, total fat 43.2%.

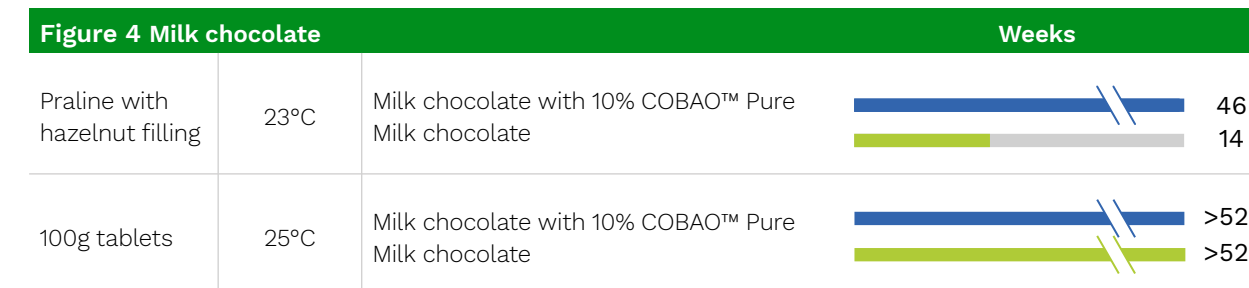
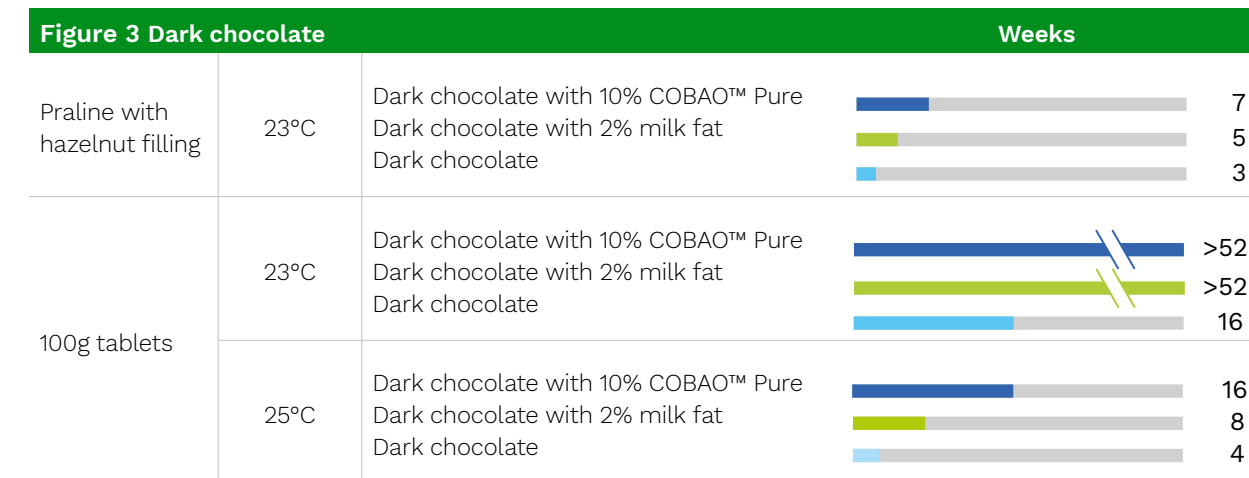


# Out with the *milk fat*, in with COBAO™ Pure

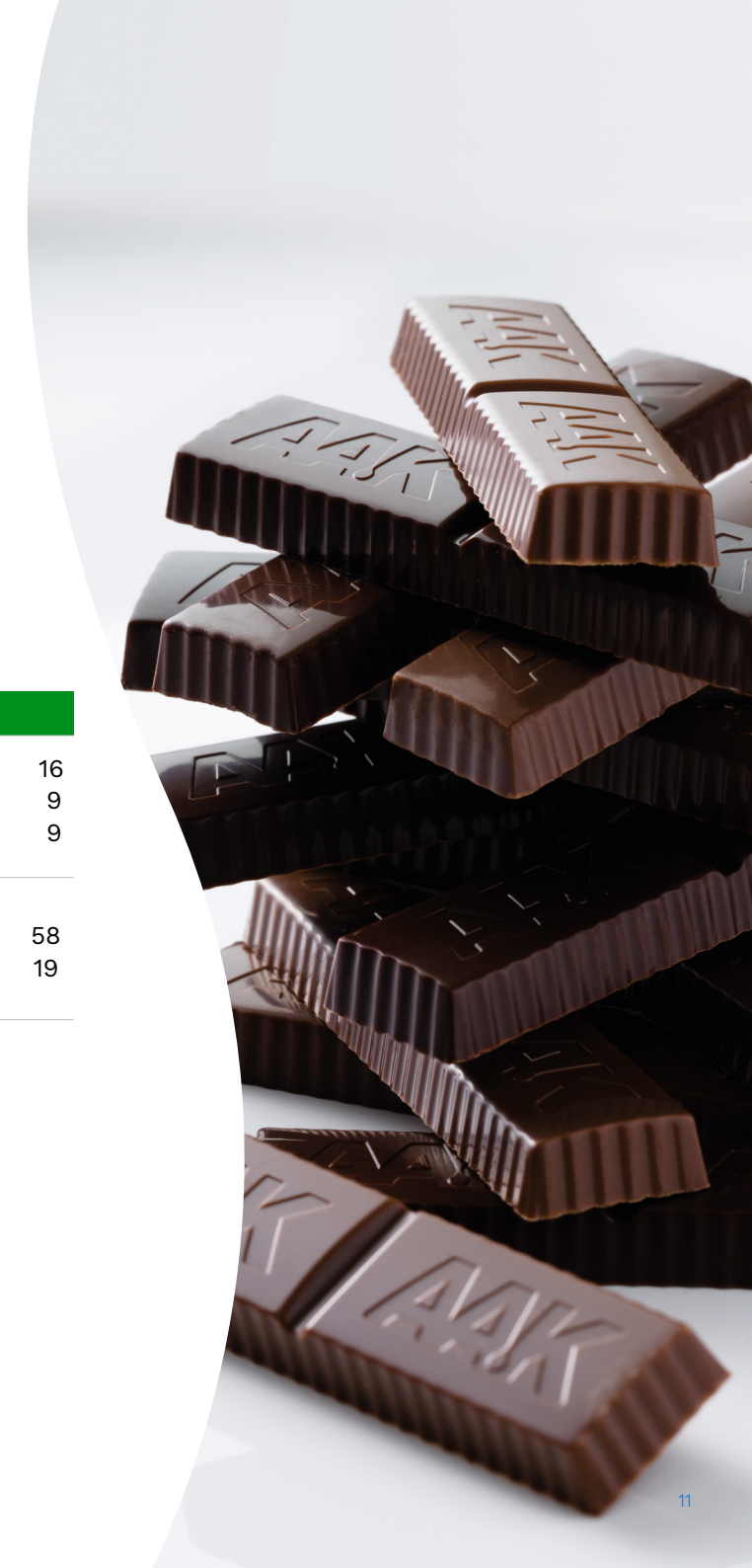
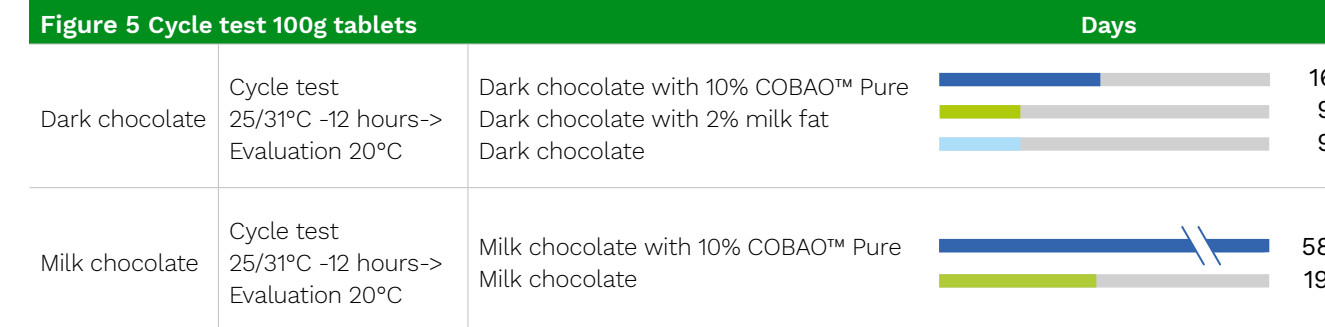
Milk fat has long been a go-to solution for delaying chocolate bloom. So, how does that performance look when compared with COBAO™ Pure?

We ran a few tests in dark and milk chocolate. The objective was to find out how many weeks of bloom-free shelf life you can get when chocolate is stored at three different temperatures from above 20°C.

Both dark and milk chocolate recipes were made with 10% COBAO™ Pure, which replaced 30% of the fat phase. Dark chocolate recipes were also produced with 2% milk fat.



Tests show that COBAO™ Pure gives the best bloom resistance almost right across the board.





# No difference in *hardness*. Only the bloom has changed

When 2% cocoa butter is replaced by milk fat, dark chocolate loses some of its hardness and snap. When 10% cocoa butter is replaced by COBAO™ Pure, hardness and snap are unchanged – on top of the longer shelf life without bloom.

These are the findings from our sensory tests. Which solution would you choose?

Figure 6 Sensory profile

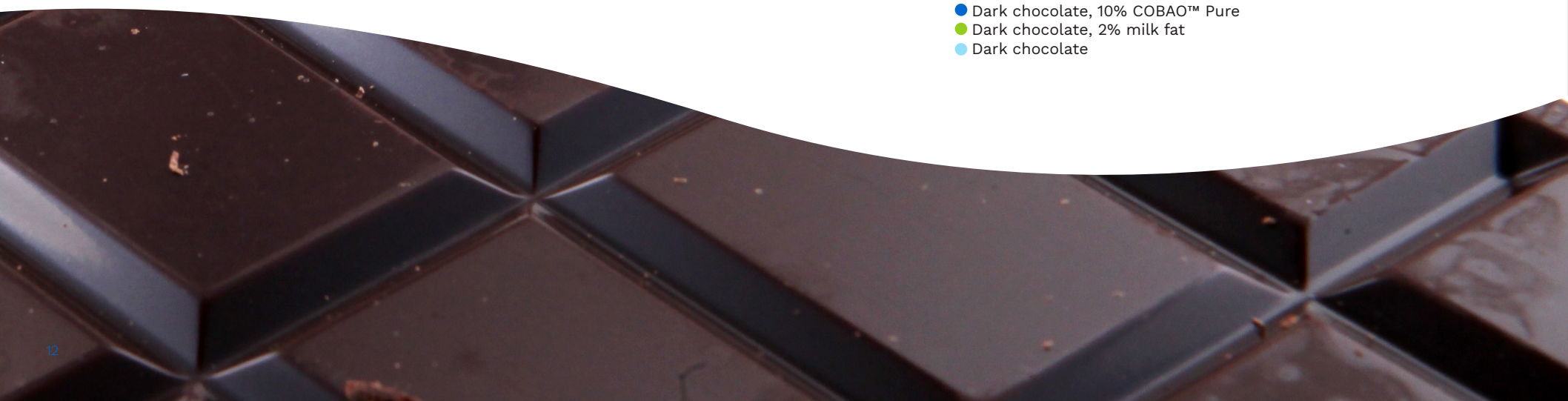
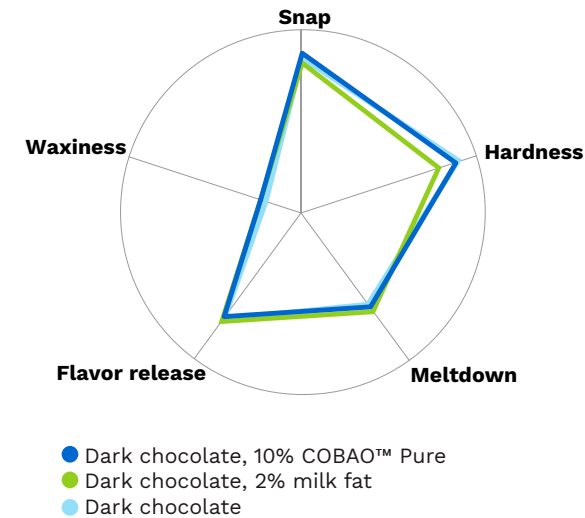
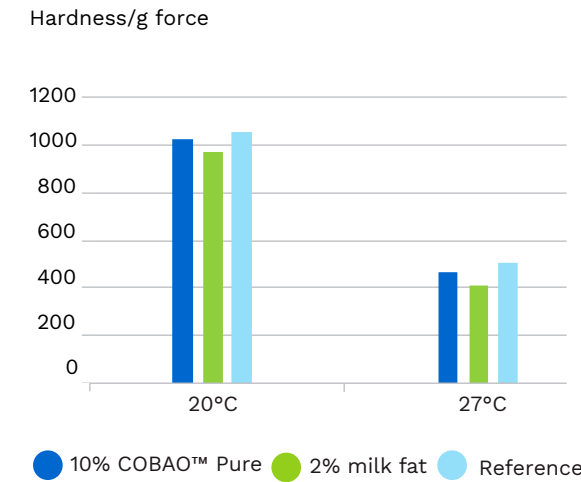


Figure 7 Dark chocolate 30% fat



At 20° C, the hardness of dark chocolate with 30% fat is relatively unchanged when 10% cocoa butter is replaced by 10% COBAO™ Pure. The dark chocolate with 2% milk fat, on the other hand, is significantly softer.

Figure 8 Dark chocolate 34% fat

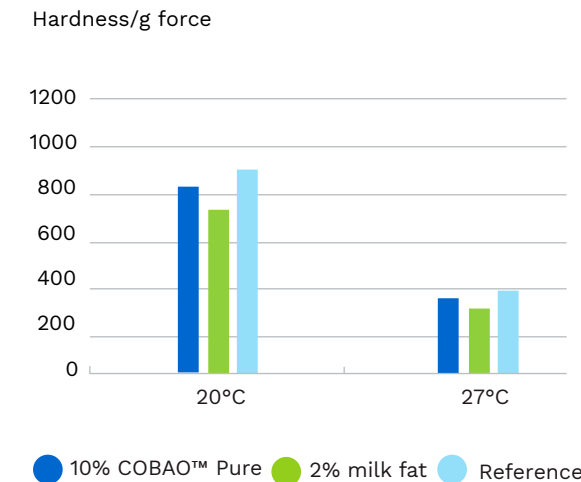


Figure 8 shows that a higher fat content reduces the hardness of the chocolate. However, the impact on hardness at 20° C is lower when 2% milk fat or 10% COBAO™ Pure is added.

Figure 7 and 8. The hardness of dark chocolate with 10% COBAO™ Pure or 2% milk fat after one week's storage at 20°C and 27°C



# Your *chance* to reach out...

Consumer purchasing habits have changed a lot since the arrival of online shopping. Today, people shop where they want, when they want.

For confectionery manufacturers, that's an opportunity to reach new and unexplored markets. It's also a challenge to make sure chocolate keeps its premium quality all the way to consumer doorsteps.

COBAO™ Pure makes global reach possible. By giving natural protection against bloom, it supports confectionery distribution to markets anywhere in the world, even in the face of fluctuating temperatures during transport and storage.



# ...and deliver *sweet luxury* all over the world

Based on 100% cocoa butter, COBAO™ Pure is proven to delay bloom in all chocolate products. Remember, though, that its effect will still depend on your recipe, fat composition, process and target application.

If the conditions are right, COBAO™ Pure will help you keep your brand promise wherever you go – with more satisfied customers and way fewer recalls.

## The bottom line for *maximum* bloom control

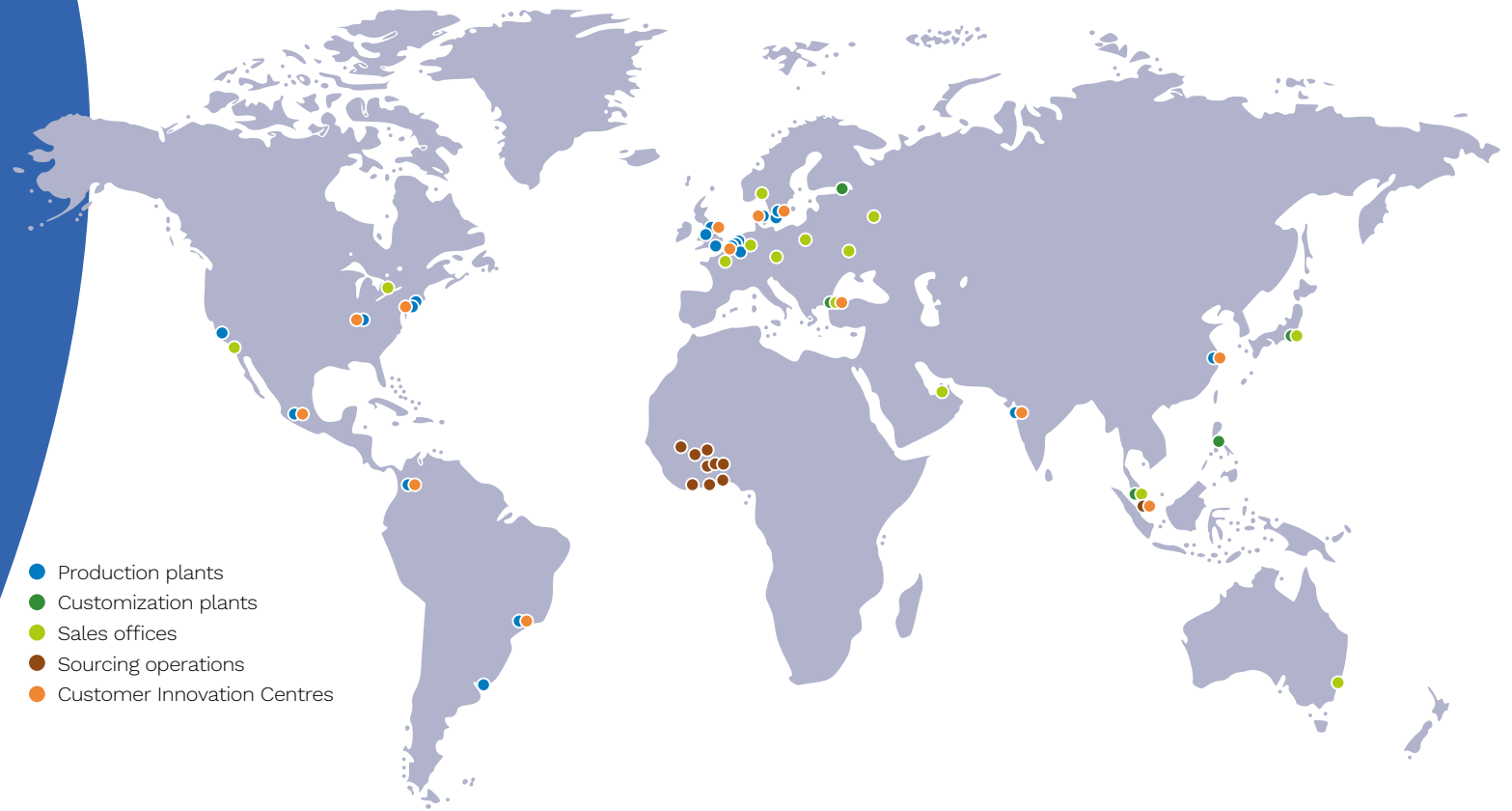
When choosing the right bloom management solution for your premium confectionery, you need to make sure it meets all expectations for:

- High sensory quality
- A consumer-friendly label
- No added allergens

**These are all the reasons why you need COBAO™ Pure**







## Everything we do is about Making Better Happen™

AAK specializes in plant-based oils that are the value-adding ingredients in many of the products people love to consume. We make these products better tasting, healthier, and more sustainable. We enhance their sensory experience – by giving the silkier mouthfeel in premium chocolate, the juicier texture in a plant-based burger, and the puffier appearance in a lower-fat pastry.

We can also optimize their production by substituting existing ingredients with plant-based equivalents that give better efficiency. AAK's value-adding solutions enable our customers to be successful in a better way.

At the heart of AAK's offer is Customer Co-Development, combining our desire to understand what better means for each customer, with the unique flexibility of our production assets, and a deep knowledge of many products and industries, including Chocolate & Confectionery, Bakery, Dairy, Plant-based Foods, Special Nutrition, Foodservice and Personal Care.

Our 4,000 employees support our close collaboration with customers through 25 regional sales offices, 15 dedicated Customer Innovation Centers, and with the support of more than 20 production facilities.

Listed on Nasdaq Stockholm and with our headquarters in Malmö, Sweden, AAK has been Making Better Happen™ for more than 150 years.

Explore more at [www.aak.com](http://www.aak.com)