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CCF

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**TROPICAO™**



# The answer

## – to a big and well-known challenge

- Heat-related bloom is one **of the most frequent reasons for quality complaints** in hot climates, making it one of the most important considerations for chocolate producers for succeeding in these markets
- Over the years, **many attempts** to find solutions to this challenge have been developed. However, there has been very **little success** because of a **trade-off** between the chocolate's bloom stability and its sensory, hence **compromising the consumer's experience**

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At AAK, we have found a solution to this challenge:

we call it..... **TROPICAO™**

# TROPICAO™

- 💧 This truly is a **breakthrough innovation!!**
- 💧 With this new solution we can make a **significant market expansion**
- 💧 We are aiming at customers that are selling **chocolate in hot climates**
- 💧 We are **the very first** in the market with a solution like this
- 💧 We have filed **several patents** on this new and exciting innovation
- 💧 The solution is **tested and upscaled**

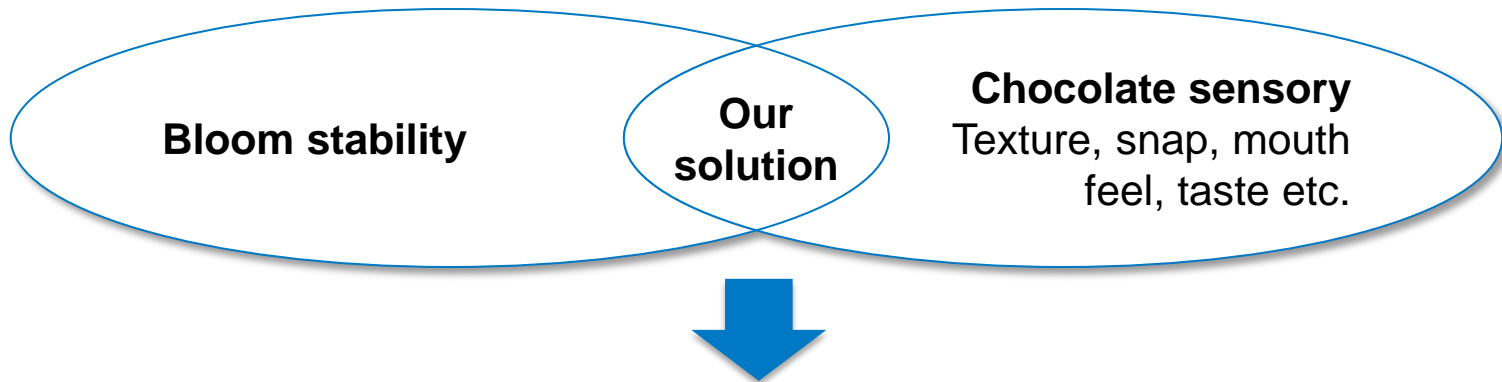


A revolution in  
the chocolate  
industry

# The answer

## – to one of chocolate producers' most severe pains

First time in history we have a solution which answers to chocolate producers' pains

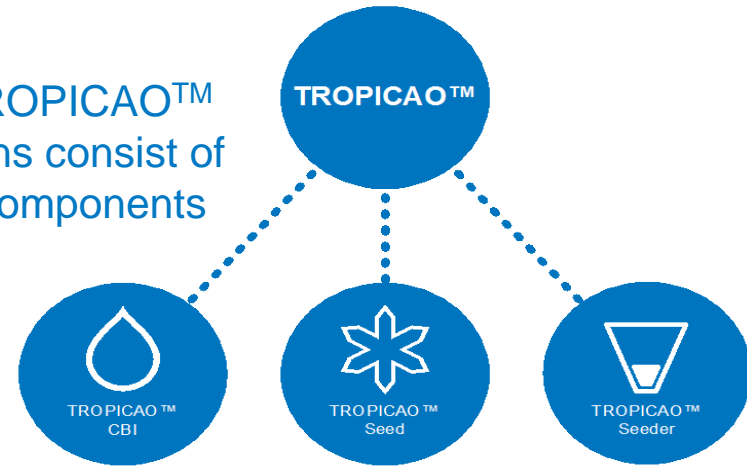


- ◆ Normally there is a **trade-off** between bloom stability and chocolate sensory – not in this solution!
- ◆ It's unique, it **cannot be matched** by anything else in the market
- ◆ An **answer to** one of our **customers' most severe pains**

# Design of solution

- ◆ A unique heat-stable solution for both **milk and dark chocolate**, providing chocolate producers with the **best-in-market resistance towards** heat-related bloom issues
- ◆ The heat-stable chocolate solution can **overcome exposures to temperatures up to 37°C** while maintaining a non-bloom appearance and securing the normal chocolate sensory
- ◆ The heat stable chocolate solution is **for moulded and enrobed/coated** applications
- ◆ The solution consists of three components:
  - ◆ TROPICAO™ CBI
  - ◆ TROPICAO™ SEED
  - ◆ TROPICAO™ SEEDER

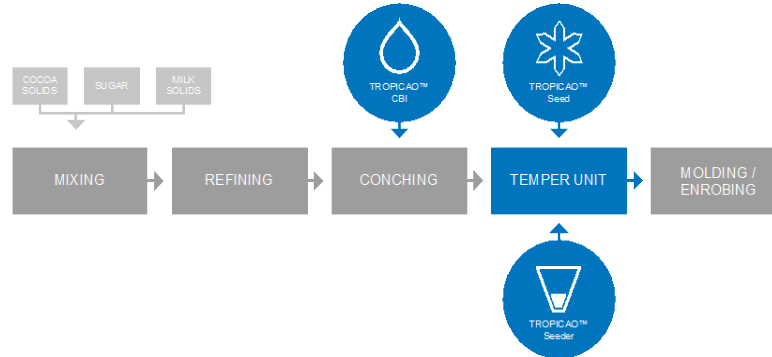
The TROPICAO™ solutions consist of three components



# Design of solution



- ◆ Heat-stable CBI, heat-stable seeds and the seeder will always go **as one solution**
- ◆ The **customer will rent the seeder equipment** from AAK
- ◆ We will make the equipment available for our customers and they will **pay rent through the purchase of the total solution**
- ◆ Our customers **avoid** cumbersome **CAPEX** handling



# Design of solution – Key Partner



- ◆ Aasted is a **very well-known global** producer of chocolate equipment and holds a market **share of 50% on temper machines**
- ◆ Aasted is a key partner and will **produce, install and maintain** the seeder equipment
- ◆ AAK **holds all patents** for the concept
- ◆ Aasted has **service offices** in all relevant markets





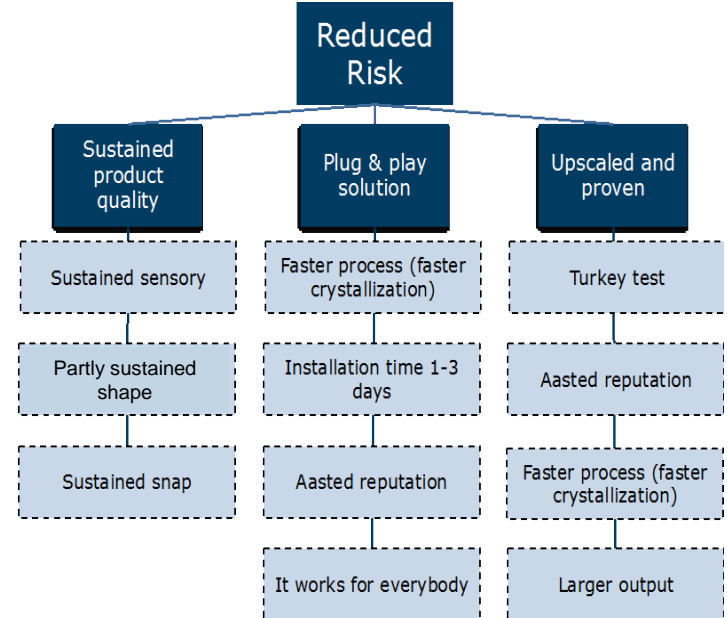
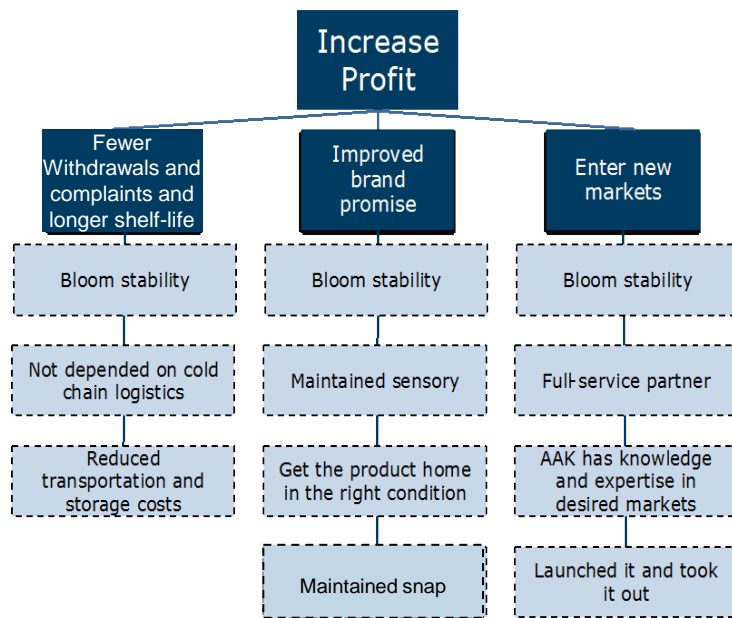
# Customer segments

- ◆ Markets in scope are **Latin America, China, India, SEA** and **MEA**
- ◆ The customer segment is chocolate producers that **are selling goods in hot climates**
- ◆ Especially producers that **invest heavily in their brand names** and that have a defined set of quality measures
- ◆ Priority is **top 5 and second tiers**. However, anyone with a significant potential behind the opportunity is a potential target
- ◆ We are aiming at decision makers within **R&D, Marketing** and **Operations**





# A very strong value proposition





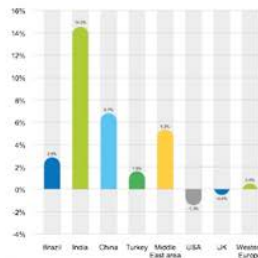
# BEAT THE BLOOM

# SECURE THE SENSORY

## Tropical markets and the heat-stable challenge

The increased chocolate consumption in hot climate markets in regions such as Latin America, Southern Europe, Asia and the Middle East are creating growth opportunities for chocolate producers. However, these big markets also hold big challenges, as the properties of chocolate change in hot climates. When exposed to temperatures above 33°C (91.4°F), chocolate bloom is accelerated, creating an undesirable white surface and a sandy and dry texture. Heat-related bloom is one of the most frequent reasons for quality complaints in hot climates, making it one of the most important considerations for chocolate producers for succeeding in these markets.

Until now, existing bloom solutions have resulted in a trade-off between the chocolate's bloom stability and its sensory at temperatures above 33°C (91.4°F), creating a waxy sensory and compromising the consumer's experience. At AAK, we have found a solution to this challenge: we call it TROPICAO™.



Current growth rates in chocolate markets around the world (Year-to-year growth in retail volume (tonnes))  
Source: Euromonitor



The TROPICAO™ solution consists of three components

### Beat the bloom, secure the sensory with TROPICAO™

With TROPICAO™ it is possible for you to produce bloom-stable chocolate while maintaining the sensory of the chocolate and with minimal impact on your production setup. The simple solution for molded and enrobed chocolate meets all EU regulations for chocolate, and consists of just three components: our TROPICAO™ CB (cocoa butter improver with enhanced heat resistance and melting characteristics), TROPICAO™ Seed and Seeder unit that can easily be attached to the existing chocolate production line.

This solution will provide a number of benefits to you, including:

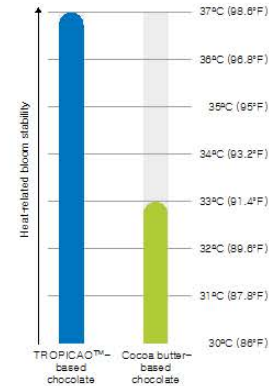
- Reduction in bloom-related quality complaints
- Extended shelf life
- Improved brand experience



## Maximize shelf life, minimize risk

One of the biggest hurdles for chocolate producers in hot climate markets is heat-related bloom. In these markets there is often a lack of sufficient capacities to keep the chocolate cool during transportation from production to the supermarket, and all the way home to the consumer. Chocolate producers and retailers have tried to find the perfect packaging, cooling shelves, cold chains, and other heat-stabilizing solutions, but this often comes at a high cost and with trade-offs. The visual and sensory effects of bloom can result in expensive quality complaints and a compromised brand experience for the consumer, so it is extremely crucial to minimize this risk.

With TROPICAO™, it has been proven that chocolate will maintain a non-bloom appearance when exposed to temperatures up to 37°C (98.6°F), making it an ideal solution for your brand in hot climate markets. Not only will you experience fewer product withdrawals and consumer complaints, greater bloom stability will also maximize the shelf life of your chocolate. According to our research, shelf life can be extended to more than six months, so you will be less dependent on the cold chain, which can reduce transportation and storage costs.



When adding TROPICAO™ to your current chocolate product you will see a significant increase in heat-related bloom stability. TROPICAO™-based chocolate can withstand up to 4°C (7.2°F) more heat compared to traditional cocoa butter-based chocolate. Source: AAK

### Bloom stability, before and after heat treatment



Temperature cycle: 5 x 37-25°C (98.6-77°F). Source: AAK

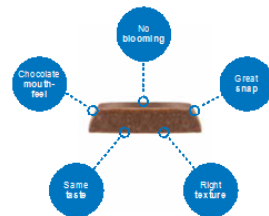


# Stay true to your brand with uncompromised sensory

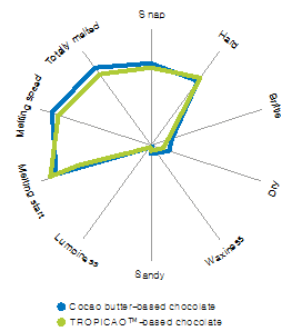
We know it is essential for you to deliver the best chocolate in every setting and to maintain your brand promise. To give consumers the best possible experience with the chocolate, all parameters must be taken into account – from the look, shape and feel to the snap, taste and texture. But maintaining all of these sensory characteristics in a hot climate is a challenging task.

With TROPICAO™, you get the best of both worlds, a solution that delivers bloom stability and one that maintains the sensory attributes of your chocolate. The heat-stable chocolate will maintain its sensory even after exposure to temperatures up to 37°C (98.6°F). TROPICAO™ will enable you to keep your brand promise so you can give consumers the best and most consistent experience with your chocolate and brand anywhere in the world, in any climate.

## Chocolate with TROPICAO™ after heat treatment

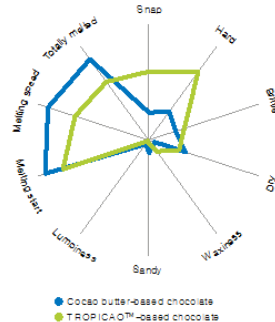


## Before heat treatment, Same sensory experience



Source: AAK

## After heat treatment, Maintained sensory experience with TROPICAO™



Source: AAK





“Beat the Bloom,  
Secure the Sensory”

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**TROPICAO™**

**AAK**